<110> Genentech, Inc. Ashkenazi, Avi Botstein, David Desnoyers, Luc Eaton, Dan L. Ferrara, Napoleone Filwaroff, Ellen Fond, Sherman Gao, Wei-Qiang Gerber, Hanspeter Gerritsen, Mary E. Goddard, A. Godowski, Paul J. Grimaldi, Christopher J. Gurney, Austin L. Hillan, Kenneth, J. Eljavin, Ivar J. Mather, Jennie P. Pan, James Paoni, Nicholas F. Roy, Margaret Ann Stewart, Timothy A. Tumas, Daniel Williams, P. Mickey Wood, William, I.

- <120> Secreted and Transmembrane Polypeptides and Nucleic Anids Engoding the Same
- <130> 10466-14
- <140> 09/865,350
- <1415 2000-19-18
- <150> PCT/UD00/04414
- <151> + 2000 + 12-12
- ≈1500 U3 €0,14±,04€
- <1.51>-1.9999+-0.7-0.7
- <150: US 60 145,698
- <151: 1993-07-26
- <150× US €0 146,222
- <151: 1993-17-28
- <150> PCT/UF99/20594
- <151> 1993-09-08
- <150 PCT/UE99/20944
- <151> 1999-09 13

```
- 150 - P-T/US99 21090
-151 - 1999-09-15
 :150. PCT/US99/21547
 <151> 1999-09-15
 <150 - PUT/US99/13089
 <151> 1994-10-05
<150> PCT US99/28214
 <151> 1990-11-.9
 4150% PCT/US397..8313
 <151> 1999-11-30
<150> PCT/US99/U8964
<151> 1999-12-02
<150> PCT/US99/18565
<151> 1999-12-02
 <150> PCT/US99/30095
<151> 1999-12-16
<151> 1989-12-10
<150> PCT 'US99/ <0999</pre>
 :151> 1999-12-.0
<150> PCT 'US00/00219
 :151> 2000-01-09
~161> 423
 <210> 1
 :211: 1915
 3212> DNA
 :213> Homo sapiens
<4005>1
 active active gittle taking attiquation coggiquation to tagaque cottogardic 60
danceabard thegodeed agradeabdd ebdeaddann thgadebood detdedtett 120
convergence tablesqueat geocetopologicologicologicologicologicologicological 180
 startigation to seace geographic georgaagae of seace of seace of the s
ogggggotgg tggadaagtt taaccagggg atggtggada ocgdaaagaa gaadtttggc 300
ggogggaana oggottggga ggaaaagaog otgtocaagt angagtonag ogagattogo 360
otgotggaga tootggaggg gotgtgogag agcagegact togaatgcaa toagatgcta 420
gaggegeagg aggageaeet ggaggeetgg tygetgeage tgaagagega atateetgan 480
ttattedadt ddtfffdtgt gaagadactg aaagtgtget getetedagg aachtacggf 540
decidantific toggatique appropriate dagaqquent deadecidaa togginantific 600
```

agoggagaiq qqaqcagada qqqqqaqqqq tootgooggt godacatqqq qtacdagqqd 660

```
eegetytgea etgaetgeat ygaeggetae tteagetege teeggaanga ganneadage 720
atetgeadag netgriganga gthetigeaag aegtigetegg geetgaddaa dagagadtige 780
ggogagtigtig aagtigggotig ggtigotiggad gaqqgogodt gtigtiggatigt gigalogagtigt 840
geggeegage egectocotg dagegotgeg dagttotgta agaaegecaa eggotectae 900
acqtqcqaaq agtqtqactc caqctqtqtq qqctqcacaq qqqaaqqccc aqqaaactqt 960
aaagagtigta tototiggota ogogagigag baloggadagt gitgbagatigt ggabgagtigo 10.00
toactagoag aaaaaacetg tgtgaggaaa aacgaaaact getacaatac tecagggage 1080
taogtotgtg tgtgtodtga oggottogaa gaaaoggaag atgootgtgt geogeoggoa 1140
gaggotgaag ocacagaagg agaaagcoog acacagotgo octooogoga agacotgtaa 1200
tytyddygae ttaceettta aattatteag aaggatytee eytygaaaat ytygeestya 1260
ggatgeegte teetgeagtg gaeageggeg gggagagget geetgetete taacggttga 1300
tteteatttq teeettaaac agetgeattt ettggttgtt ettaaacaga ettgtatatt 1380
aaaaaaaaaa aaagggoggo ogogactota gagtogacot goagaagett ggoogocatg 1500
geocaactty titattycay ettataatyy tiacaaataa ageaatayca teacaaatti 1550
dadaaataaa qoattiitti badtgoatto tagiigiggi tigiodaaad toatoaatgi 1600
atettateat gtetggateg ggaattaatt eggegeagea eeatggeetg aaataacete 1680
tgaaagagga acttggttag gtaccttetg aggeggaaag aaccagetgt ggaatgtgtg 1740
tcaqttagqq tgtqqaaagt coccaggetc cocagcaggc agaagtatgc aagcatgcat 1800
dtdaattagt dagdaaddda gtttt
<110> 2
<211> 353
<212> PRT
<.:13 > Homo sapiens
<400> 2
Met Arg Leu Pro Arg Arg Ala Ala Leu Gly Leu Leu Pro Leu Leu Leu
Leg Leg Pro Pro Ala Pro Glu Ala Ala Lys Lys Pro Thr Pro Cys His
            20
                                25
                                                    3.0
Arg Cys Arg Gly Leu Val Asp Lys Phe Ash Gin Gly Met Val Asp Thr
Ala Lys Lys Ash Phe Gly Gly Gly Ash Thr Ala Trp Glu Glu Lys Thr
Lou Ser Lys Tyr Glu Ser Ser Glu Ile Arg Lou Leu Glu Ile Leu Glu
, , C
Gly Leu Cys Glu Ser Ser Asp Phe Glu Cys Asn Gin Met Leu Glu Ala
Gln Glu Glu His Leu Glu Ala Trp Trp Leu Gln Leu Lys Ser Glu Tyr
           100
Pro Asp Leu Phe Glu Trp Phe Cys Val Lys Thr Leu Lys Val Cys
Ser Pro Gly Thr Tyr Gly Pro Asp Cys Leu Ala Cys Gln Gly Gly Ser
```

140

Gln Arg Pro Cys Ser Gly Asn Gly His Cys Ser Gly Asp Gly Ser Arg 1.45 150 Gln Gly Asp Gly Ser Cys Arg Cys His Met Gly Tyr Gln Gly Pro Leu 165 170 Cys Thr Asp Cys Met Asp Gly Tyr Phe Ser Ser Leu Arg Asn Glu Thr 185 His Ser Ile Cys Thr Ala Cys Asp Glu Ser Cys Lys Thr Cys Ser Gly 195 200 Leu Thr Asn Arg Asp Cys Gly Glu Cys Glu Val Gly Trp Val Leu Asp Glu Gly Ala Cys Val Asp Val Asp Glu Cys Ala Ala Glu Pro Pro Cys Ser Ala Ala Gln Phe Cys Lys Asn Ala Asn Gly Ser Tyr Thr Cys 245 250 Glu Glu Cys Asp Ser Ser Cys Val Gly Cys Thr Gly Glu Gly Pro Gly 265 Asn Cys Lys Glu Cys Ile Ser Gly Tyr Ala Arg Glu His Gly Gln Cys 275 280 Ala Asp Val Asp Glu Cys Ser Leu Ala Glu Lys Thr Cys Val Arg Lys Ash Glu Ash Cys Tyr Ash Thr Pro Gly Ser Tyr Val Cys Val Cys Pro Asp Gly Phe Glu Glu Thr Glu Asp Ala Cys Val Pro Pro Ala Glu Ala 330 325 Glu Ala Thr Glu Gly Glu Ser Pro Thr Gln Leu Pro Ser Arg Glu Asp 345 Leu

 $(1.10) \rightarrow 3$

4211 → 220€

< 212 > DNA

<l

<400> 3

daggtedaac tgdacetegg ttetategat tgaatteece ggggateete tagagateec 60 tegacetega eecacgegte egecaggeeg ggaggegaeg egeccageeg tetaaacggg 120 aacaqeeetg getgagggag etgeagegea geagagtate tgaeggegee aggttgegta 180 ggtgeggeac gaggagtttt eeeggeageg aggaggteet gagcageatg geecggagga 240

```
gagaettaea tgaagaagag atatggatat ggagaataat natgtgaatg atggaaatga 300
gggeggagge egggeegeeg caggaggaga geetgtaeet atggategat geteaccagg 360
caagagtast cataggattt gaagaagata tootgattgt ttoagagggg aaaatggcad 41.0
cttttacasa tgatttcaga aaagegeaac agagaatqoc agetatteet gtcaatatee 4 	imes n
attocatgaa tittadotigg daagotigdag gijdaggdaga atacttotat gaattoctigt 540
cettgegete cetggataaa ggcatcatgg cagatccaac cgtcaatgte ectetgetgg 679
gaadagtgoo toadaaggoa toagttgtto aagttggttt docatgtott ggaaaacagg 600
atggggtgge agcatttgaa gtggatgtga ttgttatgaa ttctgaagge aacaccatte 700
tocaaacaco toaaaatgot atottottta aaacatgtoa acaagotgag tgoocaaggog 780
ggtgccqaaa tggaggcttt tgtaatgaaa gacgcatctg cgagtgtcct gatgggttcc 840
acggacetea etgtgagaaa geeetttgta eeccacgatg tatgaatggt ggaetttgtg 900
tgaeteetgg titetgeate tgeecaectg gattetatgg agtgaaetgt gaeaaageaa 960
actgeteaac cacetgettt aatggaggga eetgttteta eeetggaaaa tgtatttgee 1020
etecaggaet agagggagag cagtgtgaaa teageaaatg eecacaacee tgtegaaatg 1080
gaggtaaatg cattggtaaa agcaaatgta agtgttccaa aggttaccag ggagacctct 1140
gttcaaaged tgtotgegag octggotgtg gtgcacatgg aacetgeeat gaacecaaca 1200
aatgodaatg todagaaggt tggodtggaa gacactgcaa taaaaqqtac gaagodagdo 1260
teatacatge ectgaggeca geaggegeed ageteaggea geacaegeet teaettaaaa 1320
aggccgagga gcggcgggat ccacctgaat ccaattacat ctggtgaact ccgacatctg 1380
aaacgtttta agttacacca agttcatagc ctttgttaac ctttcatgtg ttgaatgttc 1440
aaataatgtt cattacactt aagaatactg gcctgaattt tattagcttc attataaatc 1500
actgagetga tatttactet teettttaag tittetaagt acgtetgtag catgatggta 1560
tagattttet tgtttcagtg ctttgggaca gattttatat tatgtcaatt gatcaggtta 1630
aaattttcag tgtgtagttg gcagatattt tcaaaattac aatgcattta tggtgtctgg 1680
gggcagggga acatcagaaa ggttaaattg ggcaaaaatg cgtaagtcac aagaatttgg 1740
atggtgeagt taatgttgaa gttacagcat ttcagatttt attgtcagat atttagatgt 1800
 tigttacatt titaaaaatt getettaatt titaaaetet eaatacaata tattitgaee 1860
 ttaccattat tecagagatt cagtattaaa aaaaaaaaaa ttacactgtg gtagtggcat 1930
 ttaaacaata taatatatto taaacacaat gaaataggga atataatgta tgaacttttt 1930
 geattggett gaageaatat aatatattgt aaacaaaaca cagetettas etaataaasa 2040
 ttttataetg tttgtatgta taaaataaag gtgetgettt agttttttgg aaaaaaaaa (1))
 aaaaaaaaaa aaaaaaaaa aaaaaaaaaa gggeggeege gactetagag tegacetgea 2160
                                                                   2206
 gaagettigge egecatggee caacttgttt attgeagett ataatg
 <210> 4
 <211> 379
 <212> PRT
 <213> Homo sapiens
 <400>4
 Met Ala Arg Arg Ser Ala Phe Pro Ala Ala Ala Leu Trp Leu Trp Ser
  1
 Ile Leu Leu Cys Leu Leu Ala Leu Arg Ala Glu Ala Gly Pro Pro Gln
 Glu Glu Ser Leu Tyr Leu Trp Ile Asp Ala His Gln Ala Arg Val Leu
                               40
 Ile Gly Phe Glu Glu Asp Ile Leu Ile Val Ser Glu Gly Lys Met Ala
      50
```

Pro Phe Thr His Asp Phe Arg Lys Ala Gln Gln Arg Met Pro Ala Ile

€5					70					75					80
Pre	Val	Asn	Ile	His 85	Ser	Met	Asn	Phe	Thr 90	Trp	Gln	Ala	Ala	Gly 95	Glu
Alā	Glu	Tyr	Phe 100	Τγτ	Glu	Phe	Leu	Ser 105	Leu	Arg	Ser	Leu	Asp 110	Lys	Gly
Ile	Met	Ala 115	Asp	Pro	Thr	Val	Asn 120	Val	Pro	Leu	Leu	Gly 125	Thr	Väl	Pro
His	Lys 130	Ala	Ser	Val	Val	Gln 135	Val	Gly	Phe	Pro	Cys 140	Leu	Gly	Lys	Gln
Asp 145	Gly	Val	Ala	Ala	Fhe 150	Glu	Val	Asp	Val	Ile 155	Val	Мет	Asn	Ser	Glu 160
Gly	Asn	Thr	Ile	Leu 165	Gln	Thr	Fro	Gln	Asn 170	Ala	Ile	Phe	Fhe	Lys 175	Thr
Cys	Gln	Gln	Ala 180	Glu	Суз	Pro	Gly	Gly 185	Cys	Arg	Asn	Gly	Gly 190	Phe	Cys
<i>l</i> .sn	Glu	Arg		Ile	Сув	Glu	Cys 200	Pro	Asp	Gly	Phe	His 205	Gly	Pro	His
Cys	Glu 210		a Ala	Leu	. Cys	Thr	Fro	Arg	Сув	Met	Asn 220	Gly	Gly	Leu	Суз
Val 225		Pro	o Gly	/ Phe	Cys 230	Il∈	e Cys	Pro) Pro	o Gly 235	Phe	Тут	Gly	· Val	Asn 240
Cys	: Asp	Lys	s Ala	ASD 245	ı Cys	Sei	Thr	Thr	Cys 25(₃ Phe	e Asn	Gly	gly	Thr	Cys
Ph€	э Туг	r Pro	o Gly 260		s Cys	Ile	e Cys	265	Pro	o Gly	y Lei	ı Glu	i Gly 270	glu	ı Gln
C7:	5 Gli	1 Il 27		r Lys	s C <u>r</u> s	s Pro	5 Glr 280	n Pro	э Су	s Ar	g Ası	335 235	y Gly 5	/ Ly:	s Cys
TL	≃ Gl; 29		s Se	ı Lya	s Cys	5 Ly: 29	s Cy: 5	s Se	r Ly	s Gl	у Туз 30	r Gli O	n Gly	i As	o Leu
Су 30		r Ly	s Pr	o Vai	1 Суя 310	s Gl	u Pr	o Gl	у Су	s Gl 31	y Ala	a Hi	s Gl	y Th	r Cys 320
Hi	s Gl	u Pr	o As	n Ly 32	s Cy: 5	s Gl	n Cy	s Gl	n Gl 33	u Gl O	y Tr	p Hi	s Gl	y Ar 33	g His 5
Су	s As	n Ly	s Ar 34		r Gl	u Al	a Se	r Le 34	u Il 5	e Hi	s Al	a Le	u Ar 35	g Pr 0	o Ala

```
Gly Ala Gln Leu Arg Gln His Thr Pro Ser Leu Lys Lys Ala Glu Glu
                            360
        355
And Arg Asp Pro Pro Glu Ser Asn Tyr Tle Trp
                        375
    370
<.:10> 5
<211> 45
<212> DNA
<_13> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 5
                                                                    45
agggagdadg gadagtgtgd agatgtggad gagtgdtdad tagda
<210> 6
<211> 21
<111> DNA
<213> Artificial Sequence
<110>
<223> Description of Artificial Sequence: Synthetic
       cligonucleotide probe
 < 400 > €
                                                                     21
 adagtgtate tetggetacg e
 < 110> 7
 ←311> 22
 <212> DNA
 <:13> Artificial Sequence
 <220>
 <223> Description of Artificial Sequence: Synthetic
       oligonucleotide probe
 .400> 7
                                                                     22
 thagtooggo adattacagg to
 - 110> 8
 ...11: 49
 .212> DNA
 ·213> Artificial Sequence
 ...20>
 <223 > Description of Artificial Sequence: Synthetic
       oligonucleotide probe
                                                                     49
 cocacgatgt atgaatggtg gactttgtgt gactcctggt ttctgcatc
```

```
<210> 9
<111> 22
<2112> DNA
<213> Artificial Sequence
<110>
<_Ll3> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 9
                                                                    22
aaagacgcat ctgcgagtgt cc
<..10 > 10
<211> 2:
<212> DNA
<213> Artificial Sequence
< 220>
<123> Description of Artificial Sequence: Synthetic
       oligonucleotide probe
< 400> 10
                                                                     23
tightgattte adaetgetet eed
- D105 11
+.111> 2197
 . 112: DNA
 . 21/0 Homo sapiens
 , 4\,0\,\mathrm{C} , 1\,1
 oggaegogtg ggogtdoggd ggtogdagag ddaggaggdg gaggdgdgg ggddagddtg 60
 gardendaged cacadettoa coagggedea ggagedadea tgtggegatg tecactgggg 120
 ntadtgotgt tydtgodgot ggotggodad ttggotdtgg gtgoddagda gggtogtggg 190
 ogeogggage tageaceggg tetgeacetg eggggeatee gggaegeggg aggeeggtae 240
 tgodaggage aggaectgig cigeegegge egigeegaeg acigigeeet geeciaceig 300
 ggogdeatet gttachgiga cetethetge aaccgeaegg teleegaetg eigeeetgae 360
 ttotgogaet tetgeology egtgeoacce cettttoece egatecaagg atgtatgeat 420
 quaggiogta totatocagi ottgggaacg tactgggaca actgtaaccg tigcaccige 480
 maggagaada dgcagtggca tggtggatod agadatgato aaagddatda addagggcaa 540
 oratggotgg caggotggga accacagogo ettotggggo atgaccotgg atgagggoat 600
 tigetanege riggguarea teegerdate tiedteggie algaaratge algaaatita 660
 radagtgotg aaccoagggg aggtgettee cacageette gaggeetetg agaagtggee 720
 maaddbyatt datgagddid tigaddaagg daadigigda ggolddiggg ddiiddidad 780
 adicagetigtig dealecgate gligiteleaat ceallicitelig ggacacatga egecligiteet 840
 utogochdag aaddtydtyt httytyadad ddaddaydag daggydtydd gdygtyygdg 900
 renoganggi godigginggi nedigegiog degaggyging gigiotgadd achgdiaddd 960
 etteteggge egtgaæegag æegaggetgg deetgegeed deetgtatga tgeadagdeg 1020
 agreeatgggt eggggeaage gecaggeeae tgeecactge eccaacaget atgttaataa 1080
 caatgacate taccaggica efectificata degectogge fecaacgaca aggagateat 1140
 raaggagetg atggagaatg geoetgteea ageeeteatg gaggtgeatg aggaettett 1200
  notatadaag ggaggdatdt adagddabad godagtgagd ottgggaggd dagagagata 1260
  cognoggoat gggaccoact cagtoaagat cacaggatgg ggagaggaga cqctgccaga 1320
```

```
tggaaqgaeg otonaatact ggaotgogge caactootgg ggeocageet ggggogagag 1380
gggrhadtte egdateqtqe geggegteaa tgagtgegae ategagaget tegtgetggg 1440
egtetgggge egeqtgggca tggaggacat gggtcateac tgaggetgeg ggcaecaege 1500
ggggtddggd dtgggaloda ggdtaagggd dggdggaaga ggddddaatg ggqdqqtqad 1560
decagoctog deegadagag deeggggegd aggegggege caggggegta atdeeggegd 1620
gygttoogot gaogoagogo coogootygy agoogogyo aggogagaot ggoggagooc 1680
ccagacetec cagtggggae ggggeaggge etggeetggg aagageaeag etgeagatee 1740
caggostoty gegeococae teaagastae caaagecagg acaesteaag totocagees 1800
caataceeca ecocaateec gtattetttt ttttttttt ttagacaggg tettgeteeg 1860
ttgcccaggt tggagtgcag tggcccatca gggctcactg taacctccga ctcctgggtt 1920
caagtgaced teccacetea geoteteaag tagetgggae tacaggtgca ecaceadade 1980
tggctaattt ttgtattttt tgtaaagagg ggggtctcac tgtgttgccc aggctggttt 2040
cgaacteetg ggeteaageg gtecacetge eteegeetee caaagtgetg ggattgeagg 2100
catgagecae tgeacceage cetgtattet tattetteag atatttattt ttetttteae 2160
tgttttaaaa taaaneeaaa gtattgataa aaaaaaa
<2110> 12
<111> 164
< D12> PFT
<213> Homo sapiens
< 100> 11
Met Trp Arg Cys Pro Leu Gly Leu Leu Leu Leu Pro Leu Ala Gly
                                      10
His Leu Ala Leu Gly Ala Gln Gln Gly Arg Gly Arg Glu Leu Ala
                                  25
Pro Gly Leu His Let Arg Gly Ile Arg Asp Ala Gly Gly Arg Tyr Cys
 Gln Glu Gln Asp Leu Cys Cys Arg Gly Arg Ala Asp Asp Cys Ala Leu
 Fro Tyr Leu Gly Ala Ile Cys Tyr Cys Asp Leu Phe Cys Asn Arg Thr
                      70
  65
 Val Ser Asp Cys Cys Pro Asp Phe Trp Asp Phe Cys Leu Gly Val Pro
 Fre Pre Phe Pro Pro Ile Gln Gly Cys Met His Gly Gly Arg Ile Tyr
                                 105
             100
 Pro Val Leu Gly Thr Tyr Trp Asp Asn Cys Asn Arg Cys Thr Cys Gln
                             120
         115
 Glu Asn Arg Gln Trp His Gly Gly Ser Arg His Asp Gln Ser His Gln
                         135
 Pro Gly Glr. Leu Trp Leu Ala Gly Trp Glu Pro Gln Arg Leu Leu Gly
                                          155
                      150
 145
```

His Asp Pro Gly

```
<210> 13
-211> 533
+012> DNA
.ll:> Homo sapiens
100>
.121> modified base
+022> (33)
>123> a, t, c or g
 4.220>
+231> modified_base
  322> (SO)
  Eds a, t, c or g
- .:20:-
 «___1> modified base
→ 3323> (94)
<203> a, t, c or g
<120>
 *__115 modified base
 (144)
 .lim a, t, c or g
 × 1.20
  .21 modified base
 . _ ... (188)
· ... a, t, c or g
 \sim 400 \times 10
 againments goodtitte cacageaage tintgenate degattegtt gieleaaate 60
 caattetett gggadadath adgodtgted titingdddda gaaddigdig tottgiadad 120
 conscious dagget de gent de la constant de la const
 degagggntg gtgtetgade actgetaded etteteggge egtgaacgag aegaggetgg 240
 occtyogood occtgtatga tgcacageeg agocatgggt cggggcaage gecaggedad 300
 typophaotyc oddaacagot atyttaataa caatyacato taccagytea otoctytota 360
 negentrage tecaacgaca aggagateat gaaggagetg atggagaatg geoctgteea 420
 associationing gagging aggacticat collaborate gaggerates acagconcac 480
  govantgago ottgggaggo cagagagata dogooggoat gggaccoact cag
 \pm 1.10 \times 14
  -2.11 + 2.4
 SLID DNA
 4.13 Artificial Sequence
  <210 ×
  v313> Description of Artificial Sequence: Synthetic
                   cliqonucleotide probe
```

<400> 14

```
2.4
ttcqaqqcct ctgagaagtg gccc
<010> 15
<1115 22
<2112 > DNA
<213> Artificial Sequence
<22009
<1003> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 15
                                                                    22
ggeggtatet etetggeete ee
<110> 16
<.11. 50
<212 - DNA
<213 Artificial Sequence
<220>
<2003> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
                                                                    Ē 0
trotocacag cagetgtgge atdogategt gtotoaatde attototggg
<210 - 17
a211 - 950
4212 - DNA
<:L13 + Homo sapiens</pre>
<400 \times 17
gntgefttged etgttgatgg daggettggd detgdageda ggdadtgddd tgdtgtgdta 60
etectgeaaa geccaggtga geaacgagga etgectgeag gtggagaact geacceaget 120
gggggagdag tgdtggaddg egegdatddg dgdagttggd dtddtgaddg tdatdagdaa 180
aggetgeage ttgaactgeg tggatgaete acaggactae taegtgggea agaagaacat 240
caegigetgi gacadegaet igigeaaege cagegggee caigedeige ageoggeige 300
egecateett gegetgetee etgeactegg eetgetgete tggggadeeg gecagetata 360
egetetgagg geocogotg cagoccacae tgggtgtggt geoccaggee tetgtgecae 420
teeteacaga eetggeecag tgggageetg teetggttee tgaggeacat eetaacgeaa 480
gretgaedat gratgretge accoeffice eccaedetga ecctodeatg geodfeteda 540
quaetocoad deggeagate agototagtg acadagated gootgeagat ggoodsteda 600
acceptotong organizate canggeodag carbonecae ectiaancen grigoriaagge 660
andtettedd coaggaaged ttoddtgodd accedateta tgadttgage daggtetggt 720
ongtiggtigte eddegeadec ageaggggae aggeaeteag gagggeedag taaaggntga 780
gatgaagtgg actgagtaga actggaggac aagagtogac gtgagttoot gggagtotoc 940
agagatgggg cetggaggee tggaggaagg ggecaggeet cacattegtg gggeteeetg 900
aatggcagee tqagcacage gtaggceett aataaacace tgttggataa gecaaaaaa 960
 <_10> 18
 <111> 189
 ...12> PRT
 <213> Homo sapiens
```

<400	> 18	3											3	* 1 a	U ∩ T
Met 1	Thr	His	Arg	Thr 5	Thr	Thr	Trp	Ala	Arg 10	Arg	Thr	ber	Arg	15	vai
Thı	Pro	Thr	Cys 20	Ala	Thr	Pro	Ala	Gly 25	Pro	Met	Pro	Cys	Ser 30	Arg	Leu
Pro	Pro	Ser 35	Leu	Arg	Cys	Ser	Leu 40	His	Ser	Ala	Cys	Cys 45	Ser	Gly	Asp
Pro	Ala 50	Ser	Tyr	Arg	Leu	Trp 55	Gly	Ala	Pro	Leu	Gln 60	Pro	Thr	Leu	Gly
Val 65	Val	Pro	Gln	A]a	Ser 70	Val	Pro	Leu	Leu	Thr 75	Asp	Len	Ala	Gln	Trp 80
Glu	Pro	Val	Leu	Val 85	Pro	Glu	Ala	His	Pro 90	Asn	Ala	Ser	Leu	Thr 95	Met
Туг	Vál	Cys	Thr	Pro	Val	Pro	His	Pro 105	Asp	Pro	Pro	Met	Ala 110	Leu	Ser
Arg	Thr	Pro		Arg	Gln	Ile	Ser 120	Ser	Ser	· Asp	Thr	Asp 125	Pro	Pro	Ala
Asp	Gly 130		Ser	Asn	Pro	Leu 135	Сув	суз	суя	Phe	His 140	Gly	Pro	Ala	. Phe
S≓r 145		: Let	ı Asr	Prc	Val 150	Leu	ı Arg	y His	Leu	Phe 155	e Pro	Glr	ı Glu	Ala	Phe 160
P14) Alá	a His	s Pro) Ile 165	Tyr	: Asp	Let	ı Ser	Glr 170	n Val	Trp	Sei	val	. Val	Sei
Pro	o Ala	a Pro	5 Sei 180	c Arg	g GlΣ	/ Gli	n Ala	a Lei 185	ı Arg	g Arg	g Ala	a Gli	ı		
< 11 1 < 11 1	10> 1 11> 1 12> 1	24 DNA	fici	al Se	equei	nce									

<400> 19 tqctgtgcta ctcctgcaaa gccc

...10: 20

<211> 24

<212> DNA

```
<213 Artificial Sequence</p>
<0.105
<223: Description of Artificial Sequence: Synthetic
      aligonuclectide probe
<40(c)-2.6
                                                                   24
tycacaagto ggtgtcacag cacg
<210> 11
<111> 44
<1112 > DNA
<113> Artificial Sequence
<2200 ×
<222> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 11
                                                                   44
agcaacgagg actgcctgca ggtggagaac tgcacccagc tggg
<210> 22
<211> 1200
<111> DNA
<213> Homo sapiens
<400> .12
oppdaggggte egaacetete cagegatggg ageegeeege etgetgeeea aceteaetet 60
gtgottadag ctgctgatte tetgctgtea aactcagtac gtgagggade agggdgecat 11.0
gadogaddag etgagdaggd ggdagatddg egagtaddaa etetadagda ggaddagtgg 100
calaycacyty caggicaccy ggogicgeat ciecgenade geoglaggaeg gealcalagti 24\%
tgedaagete atagtggaga eggadaegtt tggdageegg gttegdatea aaggggetga 300
gagtgagaag tacatotgta tgaacaagag gggcaagete atogggaage ceagegggaa 340
gagbaaaagan tgogtgttoa oggagatogt gotggagaan aactatabgg bottobagaa 420
egoeogydan gagggetggt teatggeett eaegogydag gggeggeedd goeaggette 490\,
cogeagoogo cagaaccago gogaggooca ottoatcaag ogoototaco aaggooagot 540
godetteded aaccaegoog agaagcagaa geagttegag titigiggest eegoededac 600
cogooggadd aagogdadaa ggoggdddda gddddtdadg tagtotggga ggdagggggd 600
ageageeest gggeegeete eesaceestt teesttetta atesaaggas tgggetgggg 720
tiggogggagg ggagddagat ddddgaggga ggadddtgag ggodgdgaag datddgagdd 730
cocagotiggg aaggggcagg coggtgoddd agggggggat ggdadagtigd oddottiddog 840
gaegggtgge aggeeetgga gaggaaetga gtgteaedet gateteagge eaceageete 900
tudeggeete edageeggge teetgaagee egetgaaagy teagegaetg aaggeettge 960
agacaacogt otggaggtgg otgtootcaa aatotgette teggatetee eteagtetge 1020
chocagoood caaactooto etggetagae tgtaggaagg gadtittgtt tgtttgtttg 1080
tttcaggaaa aaagaaaggg agagagagga aaatagaggg ttgtccactc ctcacattcc 1140
abgaccdagg cotgoacccc accoccaact cocagoddog gaataaaacc attttoctge 1200
<210> 23
<211> 205
 <212> PRT
```

<2113> Homo sapiens

<400 > 23

Met Gly Ala Ala Arg Leu Leu Pro Asn Leu Thr Leu Cys Leu Gln Leu
5 10 15

Let lie Let Cys Cys Gln Thr Gln Tyr Val Arg Asp Gln Gly Ala Met 20 25 30

Thr Asp Gln Leu Ser Arg Arg Gln Ile Arg Glu Tyr Gln Leu Tyr Ser 35 40 45

Arg Thr Ser Gly Lys His Val Gln Val Thr Gly Arg Arg Ile Ser Ala 50 60

Thr Ala Glu Asp Gly Asn Lys Phe Ala Lys Leu Ile Val Glu Thr Asp
65 70 75 80

Thr Phe Gly Ser Arg Val Arg Ile Lys Gly Ala Glu Ser Glu Lys Tyr 85 90 95

Ile Cys Met Asn Lys Arg Gly Lys Leu Ile Gly Lys Pro Ser Gly Lys
100 105 110

Ser Lys Asp Cys Val Phe Thr Glu Ile Val Leu Glu Asn Asn Tyr Thr 11° 12° 12°

Ala Phe Gln Asn Ala Arg His Glu Gly Trp Phe Met Ala Fhe Thr Arg 130 135 140

Gln Gly Arg Pro Arg Gln Ala Ser Arg Ser Arg Gln Asn Gln Arg Glu 145 150 155 160

Ala His Phe Ile Lys Arg Leu Tyr Gln Gly Gln Leu Fro Phe Pro Asn 165 170 175

His Ala Glu Lys Gln Lys Gln Phe Glu Phe Val Gly Ser Ala Pro Thr 180 185 190

Aig Arg Thr Lys Arg Thr Arg Arg Pro Gln Pro Leu Thr 195 200 205

<210> 24

<211> 28

<..12> DNA

<213> Artificial Sequence

<:32€>

#223> Description of Artificial Sequence: Synthetic oligonucleotide probe

<400> 24

caqtacqtga gggaccaggg cgccatga

```
<211> 24
<212> DNA
<2313> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 15
                                                                   24
coggtgacct gcacgtgctt gcca
<210> 26
<311> 41
<212> DNA
<113> Artificial Sequence
<...20>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<2200>
<221> modified_base
<2225 (21)
<2235 a, t, d or g
<4005 35
                                                                    41
geggatetge egeetgetea netggteggt catggegeec t
<210 ≥ 27
k311> 3479
40125~\text{DNA}
<213 - Homo sapiens
<400 > 27
actigorate accigitged agigitggaaa aatteteeet gitgaattit tigeacatgg 60
aggadaqdag daaaqagggd aadadaggdt gataagadda gagadagdag ggagattatt 120
traccatacg coctoaggae gittoccicta goiggaguic iggacticaa cagaacccca 180
todagtoatt tigatitige igistatiti tittitoiii tioiittioo daddadattg 240
tattitatti dequadtida qaaatgggdd tadagaddad aaagtggddd agddatgggg 300
cttttttect gaagtettgg ettateattt eeetgggget etaeteacag gtgteeaaac 360
tootygootg coctagtgtg tgoogotgog acaggaactt tgtotactgt aatgagogaa 420
gettgaeete agtgeetett gggateeegg agggegtaae egtaetetae eteeacaaca 480
addaaattaa taatgotgga stoobiybag aactgoacaa tysacagtog gtgnacacgg 540
totacotgta tygoaaccaa otygacgaat tococatgaa cottoccaay aatytoagay 600
ttotocattt geaggaaaac aatatteaga eeattteaeg ggetgetett geedagetet 660
tgaagottga agagotgoac otggatgaca actocatato cacagtgggg gtggaagacg 720
gggoottoog ggaggotatt agootdaast tgttgttttt gtotaagaat caddtgagds 780
grigtgeetgt tigggetteet griggaettige aagagergag agriggargaa aaregaarty 840
ctytoatato ogadatygod ttodagaato toacyagott ygagogtott attytygady 900
ogaacotoot gaccaacaag ggtatogoog agggcacott cagccatoto accaagotoa 960
aggaatttto aattgtacgt aattcgctgt cocascetoc toocgatotc ccaggtacgc 1020
atetgateag getetatitig daggadaado agataaadda datteettig adagdottot 1080
caaatotgog taagotggaa oggotggata tatocaacaa ocaactgogg atgotgacto 1140
```

aaggggtttt tgataatoto todaaootga agcagotoad tgotoggaat aaccottggt 1200

```
tttgtgaetg cagtattaaa tgggtcacaq aatggetcaa atatateeet teatetetea 1260
acgtgegggg thtcatgtge caaqqteetg aacaagteeg ggggatggee gteagggaat 1320
taaatatqaa teltiitgico tgioocaeca egaececegg eetgeetete tidaceceaq 1380
ceedaagtae agetteteeg addasteage eteedaddet etetatteea aaseetagea 1440
gaagetacae gestecaast ostassasat ogaaasttes sasgattest gastgggatg 1500
gcagagaaag agtqacccca cctatttctg aacggatcca gctctctatc cattttgtga 1560
atgatactto cattoaagto agotggotot ototottoac ogtgatggoa tabaaactca 1620
datgggtgaa aatgggddad agtttagtag ggggdatogt toaggagdgd atagtdagdg 1680
gtgagaagea abacetgage etggttaaet tagageeeeg atecacetat eggatttgtt 1740
tagtgccact ggatgctttt aactaccgcg eggtagaaga caccatttgt tcagaggcca 1800
ecaeceatge etectatety aacaaeggea geaacacage gtecagecat gageagaega 1860
egteceacag catgggetee ceetttetge tggegggett gateggggge geggtgatat 1920
tigtgetggt ggtettgete agegtettit getggeatat geacaaaaag gggegetaca 1980
octoccagaa gtggāāatac aaccggggto ggoggāāaaga tgattattgc gaggcaggca 2040
ocaagaagga caactocato otggagatga cagaaaccag fitticagato giotoottaa 2100
ataacgatca actoottaaa ggagatttoa gastgoagoo catttacaco ocaaatgggg 2160
grattaatta cacagactge catatececa acaacatgeg atactgcaac agcagegige 2020
cagacetgga geaetgeeat aegtgacag: cagaggeeca gegttateaa ggeggacaat 2280
tagactottg agaacacact egtgtgtgca cataaagaca egcagattae atttgataaa 2340
tgttacacag atgcatttgt gcatttgaat actctgtaat ttatacggtg tactatataa 2400
tgggatttaa aaaaagtget atetttteta ttteaagtta attacaaaca gttttgtaac 2460
totttgottt ttaaatott
<2110> 28
<211> 660
<1:12> PRT
2113> Homo sapiens
4400> 28
Met Gly Leu Gln Thr Thr Lys Trp Pro Ser His Gly Ala Phe Phe Leu
Lys Ser Trp Leu Ile Ile Ser Leu Gly Leu Tyr Ser Gln Val Ser Lys
                                  2.5
              20
 Leu Leu Ala Cys Pro Ser Val Cys Arg Cys Asp Arg Asn Phe Val Tyr
                              40
          35
 Cys Asn Glu Arg Ser Leu Thr Ser Val Pro Leu Gly Ile Pro Glu Gly
 Val Thr Val Leu Tyr Leu His Asn Asn Glr. He Asn Asn Ala Gly Phé
                                          75
                      70
 Fro Ala Glu Leu His Asn Val Gln Ser Val His Thr Val Tyr Leu Tyr
                                       90
                  85
 Gly Asn Gln Leu Asp Glu Phe Pro Met Asn Leu Pro Lys Asn Val Arg
                                 105
 Val Leu His Leu Gln Glu Asn Asn Ile Gln Thr Ile Ser Arg Ala Ala
                                                  125
                             120
```

Leu	Ala 130	Gln	Leu	Leu	Lys	Leu 135	Glu	Glu	Leu	His	Leu . 140	Asp	Asp	Asn	Ser
Ile 145	Ser	Thr	Val	Gly	Val 150	Glu	Asp	Gly	Ala	Phe 155	Arg	Glu	Ala	Ile	Ser 160
Leu	Lys	Leu	Leu	Phe 165	Leu	Ser	Lys	Asn	His 170	Leu	Ser	Ser	Val	Pro 175	Val
Gly	Leu	Pro	Val 180	Asp	Leu	Gln	Glu	Leu 185	Arg	Val	Asp	Glu	Asn 190	Arg	Ile
Ala	Val	Ile 195	Ser	Asp	Met	Ala	Phe 200	Gln	Asn	Leu	Thr	Ser 205	Leu	Glu	Arg
Leu	11e 210	Val	Asp	Gly	Asn	Leu 215	Leu	Thr	Asn	Lys	Gly 220	Ile	Ala	Glu	Gly
225					230			Lys		235					2.10
				245				Leu	25.0					233	
			260					Asn 265					270		
Ser	Asn	Leu 275		Lys	Leu	Glu	Arg 280	J Leu)	Asp	Ile	Ser	Asn 285	Asn	Gln	. Leu
Arg	Met 290		Thr	Gln	Gly	Val 295	Ph∈	e Asp	Asn	. Leu	Ser 300	Asn	Leu	. Lys	Gln
Leu 305		Ala	. Arg	Asn	Asn 310		Tir	p Phe	e Cys	315	Cys	Ser	lle	Lys	320
Val	Thr	Glu	Trp	Leu 325		Tyr	: Ile	e Pro	330	ser	Leu	. Asn	ı Val	. Arg 335	g Gly
			340)				345	5				350	J	g Glu
Let	ı Ası	355		ı Lev	ı Leu	ı Sei	36 36	s Pro	o Thr	c Thr	Thi	365	5 Gly	/ Let	ı Pro
Lev	ı Phe 370		L Pro	o Ala	a Pro	37'	r Th	r Ala	a Sei	r Pro	380	r Thi	r Glr	n Pro	o Pro
Th:		ı Se:	r Ile	e Pro	390		o Se	r Ar	g Sei	r Tyı 395	c Thi	r Pro	o Pro	o Thi	r Pro 400
mh.	v Thi	r Se	r T.579	s Lei	i Pro	o Th	r Il	e Pr	o Ası	p Tri	o Ası	o Gl	y Ar	g Gl	u Arş

415 410 405 Val Thr Pro Pro Ile Ser Glu Arg Ile Gln Leu Ser Ile His Phe Val 425 420 Asn Asp Thr Ser Ile Gln Val Ser Trp Leu Ser Leu Phe Thr Val Met 440 Ala Tyr Lys Leu Thr Trp Val Lys Met Gly His Ser Leu Val Gly Gly 455 Ile Val Gln Glu Arg Ile Val Ser Gly Glu Lys Gln His Leu Ser Leu Val Asn Leu Glu Pro Arg Ser Thr Tyr Arg Ile Cys Leu Val Pro Leu 490 Asp Ala Phe Asn Tyr Arg Ala Val Glu Asp Thr Ile Cys Ser Glu Ala 500 Thr Thr His Ala Ser Tyr Leu Asn Asn Gly Ser Asn Thr Ala Ser Ser 520 His Glu Gln Thr Thr Ser His Ser Met Gly Ser Pro Phe Leu Leu Ala 535 Gly Leu Ile Gly Gly Ala Val Ile Phe Val Leu Val Val Leu Leu Ser 550 Val Phe Cys Trp His Met His Lys Lys Gly Arg Tyr Thr Ser Gln Lys 570 565 Trp Lys Tyr Asn Arg Gly Arg Arg Lys Asp Asp Tyr Cys Glu Ala Gly Thr Lys Lys Asp Asn Ser Ile Leu Glu Met Thr Glu Thr Ser Fhe Gln 500 595 Ile Val Ser Leu Asn Asn Asp Gln Leu Leu Lys Gly Asp Phe Arg Leu 615 610 Gln Pro Ile Tyr Thr Pro Asn Gly Gly Ile Asn Tyr Thr Asp Cys His 635 630 €25 lle Pro Asn Asn Met Arg Tyr Cys Asn Ser Ser Val Pro Asp Leu Glu 650 645 His Cys His Thr 660 <210> 29 <211> 21 <212> DNA

[9]

<213 · Artificial Sequence		
<.20 - <233 - Description of Artificial Se oligonucleotide probe	equence: Synthetic	
<400 - 29 egytetadet gtatggeaac e	2	1
<pre><010 > 30 <011 > 20 <012 > DNA <013 > Artificial Sequence</pre>		
<pre><120> <h23> Description of Artificial Se</h23></pre>	equence: Synthetic	
<400> 30 gcaggacaac cagataaacc ac	2	22
<110 > 31 <211 > 21 <112 > DNA <213 > Artificial Sequence		
<pre>20>21> Pescription of Artificial S</pre>	equence: Synthetic	
<pre>~400> 31 acgcagattt gagaaggetg te</pre>	:	22
<pre>>10s 3.3 >11s 46 >12> DNA >13> Artificial Sequence</pre>		
2004 22004 Description of Artificial S cligonucleotide probe	Sequence: Synthetic	
.400 / 32 •teanggget getettgede agetettgaa	gcttgaagag ctgcac	46
+210		
-400 - 13 acttggagoa agoggoggog goggagadag ogoddocad gagogatedd ogaggagago	aggeagagge agaagetggg geteegteet egeggesete ggegaggega agaggeegae	60 120

gaggaagadd ddggtggdtg dgdddtgdd togdttodda ggddddgdd gdtgdagddt 180 tgeocetett getegoettg aaaatggaaa agatgetege aggetgettt etgetgatee 240 teggacagat egicetecic ceigeogagg ceaqqqageg gicaegiggg aggiceatei 3() ctaggggdag adacqdtogg adddandogd agadggdddt tottggagagt tootgtgaga 300 acaagoggge agacetggtt theateattq adageteteg dagtgtmase acceatquet 410 atgraaaggt caaggagtte ategtggada tettgcaatt ettggadatt ggteetgatg $4\pi n$ toaccogagt gggcotgoto caatatggca gcactgtcaa gaatgaytto tooctcaaga 540 octtoaagag gaagtoogag gtggagogtg etgtoaagag gatgoggoat etgtocaegg 600 geaccatgae tgggetggee atccagtatg ceetgaaeat egeattetea gaageagagg 660 gggdddggdd ddfgagggag aatgtgddad ggqtdataat gatdgtgada gatgggagad 720 cteaggacte egtggeegag gtggetgeta aggeaeggga caegggeate etaatetttig 780 ccattggtgt gggccaggta gacttcaaca ccttgaagtc cattgggagt gagccccatg 840 aggaddatgt ottoottgtg godaatttda godagattga gadgotgadd toogtgttod 900 agaagaagtt gtgcacggcc cacatgtgca gcaccetgga gcataactgt gcccacttct 980 geateaacat edetggetea taegtetgea qqtgeaaaca aggetacatt etcaactegg 1000 atcagacgas tigcagaatc caggainigt gigccatgga ggaccanaac igigagcage 1030 totgtgtgaa tgtgoogggo toottogtot gocagtgota cagtggotac gocotggotg 1140 aggatgggaa gaggtgtgtg getgtggaet actgtgeete agaaaaccae ggatgtgaac 1200 atgagtgtgt aaatgotgat ggotootaco tttgocagtg coatgaagga tttgototta 1260 acccagatga aaaaacgtgc acaaggatca actactgtgc actgaacaaa ccqggctgtg 1710 ageatgagtg egteaacatg gaggagaget actaetgeeg etgecacegt ggetacaete 1380 tggaccccaa tggcaaaacc tgcagccgag tggaccactg tgcacagcag gaccatggct 1440 gtgagdagdt gtgtdtgaad acggaggatt odttdgtdtg ddagtgdtda gaaggdttdd 1500 tcatcaacga ggacctcaag acctgeteec gggtggatta etgeetgetg agtgaccatg 1500 gttgtgaata etdetgtgte aacatggaca gateetttge etgteagtgt eetgagggae 1610 acgtgetecg cagegatggg aagaegtgtg caaaattgga etettgtget etgggggace 1680 aeggttgtga acattegtgt gtaageagtg aagattegtt tgtgtgeeag tgetttgaag 1740 gttatatact cogtgaagat ggaaaaacct qcagaaqgaa agatgtotgo caagctatag 1800 accatggetg fgaacacatt totgtgaada gtgacgadto atadangtgo gaqtgottqg 1950 aggyatteeg getegetgag gatgygaaad getgeegaag gaaggatgte tgeaaateaa 19.0 decadeatgg digegaacad altigigita alaatgggaa tiectacate igdaaatget 1980 dagagggatt tgttdtagdt gaggadggaa gadggtgdaa gaaatgdadt gaaggdddaa Lv40 ttgaddtggt efftgtgafe gafggafeea agagfeffgg agaagagaaf fffgaggfeg (100) tgaagcagtt tgtcactgga attatagatt cettgacaat ttccccccaaa geegetegag 1160 tggggetget ecagtattee acacaggtee acacagagtt cactetgaga aactteaaut 1...10 dagecaaaqa datgaaaaaa geegtggeed acatgaaata catgggaaag ggetetatqa ...90 otgggotggo notgaaacac atqtttgaga gaagttttac coaaggagaa ggggocaggo 1740 odostitodad aagggigodd agagdagdda tigigiidad ogadggaegg geicaggaig 1400 acguetocga gugggedagt asagedaagg cdaatggtat cactatgtat geugstgggg 2460 taggaaaayo cattgaggag gaactacaag agattgooto tgagoocaca aacaagcato 2520 tottotatgo ogaagaetto agoacaatgg atgagataag tgaaaaacto aagaaaggoa Lovo tetytyaayo tetagaagad teegatyyaa gucaggasto tecayeayyy gaactyeeaa 1840 aaaoggtoda adagodaada gaatotgago dagtoaddat aaatatodaa gadotadtii .740 cotgiticiaa tittigoagig caacacagat aleigitiga agaagacaat eiittiaeggi "750 atcaatgcaa atgtgaaaad ettataatgt tecagaacet tgcaaaegaa gaagtaagaa "850 aattaadada gogottagaa qaaatgadad agagaatgga agoootggaa aatoqootga .940 gatacagatg aagattagaa atogogacad atttgtagto attgtatoac ggattacaat 7000 gaacgcagtg cagagcccca aagctcaggc tattgttaaa tcaataatgt tgtgaagtaa ±000 aadaatdagt adtgagaaad otggtttgod adagaadaaa gadaagaagt atagadtaad 2120 ttgtataaat ttatotagga aaaaaatoot toagaattot aagatgaatt taooxiggtga :180 gaatgaataa gotatgoaag gtattttgta atatactgtg gadacaactt gottotgoot ...40 catootgoot tagtgtgcaa totoatttga otataogata aagtttgcao agtottaott 3300

<210> 34

<211> 915

<112> PRT

<213> Homo sapiens

<400> 34

Met Glu Lys Met Leu Ala Gly Cys Phe Leu Leu Ile Leu Gly Gln Ile 1 5 10 15

Val Leu Leu Pro Ala Glu Ala Arg Glu Arg Ser Arg Gly Arg Ser Ile

Ser Arg Gly Arg His Ala Arg Thr His Pro Gln Thr Ala Leu Leu Glu 35 40 45

Ser Ser Cys Glu Asn Lys Arg Ala Asp Leu Val Phe Ile Ile Asp Ser 50 55 60

Ser Arg Ser Val Asn Thr His Asp Tyr Ala Lys Val Lys Glu Phe Ile 65 70 75 80

Val Asp Ile Leu Gln Phe Leu Asp Ile Gly Pro Asp Val Thr Arg Val

Gly Leu Leu Gln Tyr Gly Ser Thr Val Lys Asn Glu Fhe Ser Leu Lys

Thr Phe Lys Arg Lys Ser Glu Val Glu Arg Ala Val Lys Arg Met Arg 115 120 125

His Leu Ser Thr Gly Thr Met Thr Gly Leu Ala Ile Gln Tyr Ala Leu 130 135 140

Asn Ile Ala Phe Ser Glu Ala Glu Gly Ala Arg Pro Leu Arg Glu Asn 145 150 155 160

Val Pro Arg Val Ile Met Ile Val Thr Asp Gly Arg Pro Gln Asp Ser 165 170 175

Val Ala Glu Val Ala Ala Lys Ala Arg Asp Thr Gly Ile Leu Ile Phe 180 185 190

Ala Ile Gly Val Gly Gln Val Asp Phe Asn Thr Leu Lys Ser Ile Gly 195 200

Ser Glu Pro His Glu Asp His Val Phe Leu Val Ala Asn Phe Ser Gln 210 215 220

Ile Glu Thr Leu Thr Ser Val Phe Gln Lys Lys Leu Cys Thr Ala His

230 2:46 235 225 Met Cys Ser Thr Leu Glu His Asn Cys Ala His Phe Cys Ile Asn Ile 250 245 Pro Gly Ser Tyr Val Cys Arg Cys Lys Gln Gly Tyr Ile Leu Asn Ser 265 Asp Gln Thr Thr Cys Arg Ile Gln Asp Leu Cys Ala Met Glu Asp His Asn Cys Glu Gln Leu Cys Val Asn Val Pro Gly Ser Phe Val Cys Gln 295 Cys Tyr Ser Gly Tyr Ala Leu Ala Glu Asp Gly Lys Arg Cys Val Ala 315 310 Val Asp Tyr Cys Ala Ser Glu Asn His Gly Cys Glu His Glu Cys Val Asn Ala Asp Gly Ser Tyr Leu Cys Gln Cys His Glu Gly Phe Ala Leu Asn Pro Asp Glu Lys Thr Cys Thr Arg Ile Asn Tyr Cys Ala Leu Asn 360 Lys Pro Gly Cys Glu His Glu Cys Val Ash Met Glu Glu Ser Tyr Tyr 375 Cys Arg Cys His Arg Gly Tyr Thr Leu Asp Fro Asn Gly Lys Thr Cys 3 9 5 390 Ser Arg Val Asp His Cys Ala Gln Gln Asp His Gly Cys Glu Gln Leu 410 405 Cys Leu Asn Thr Glu Asp Ser Phe Val Cys Gln Cys Ser Glu Gly Phe 425 Leu Ile Asn Glu Asp Leu Lys Thr Cys Ser Arg Val Asp Tyr Cys Leu 435 Leu Ser Asp His Gly Cys Glu Tyr Ser Cys Val Asn Met Asp Arg Ser 455 Phe Ala Cys Gln Cys Pro Glu Gly His Val Leu Arg Ser Asp Gly Lys 475 470 Thr Cys Ala Lys Leu Asp Ser Cys Ala Leu Gly Asp His Gly Cys Glu 485 His Ser Cys Val Ser Ser Glu Asp Ser Phe Val Cys Gln Cys Phe Glu 505

- Gly Tyr Ile Leu Arg Glu Asp Gly Lys Thi Cys Arg Arg Lys Asp Val 515 520 525
- Cys Gln Ala Ile Asp His Gly Cys Glu His Ile Cys Val Asr Ser Asp 530 535
- Asp Ser Tyr Thr Cys Glu Cys Leu Glu Gly Phe Arg Leu Ala Glu Asp 555 560
- Gly Lys Arg Cys Arg Arg Lys Asp Val Cys Lys Ser Thr His His Gly 575
- Cys Glu His Ile Cys Val Asn Asn Gly Asn Ser Tyr Ile Cys Lys Cys 580 585
- Ser Glu Gly Phe Val Leu Ala Glu Asp Gly Arg Arg Cys Lys Cys 595 600 605
- Thr Glu Gly Pro Ile Asp Leu Val Phe Val Ile Asp Gly Ser Lys Ser 610 615
- Leu Gly Glu Glu Asn Phe Glu Val Val Lys Gln Phe Val Thr Gly Ile 625 630 630
- Ile Asp Ser Leu Thr Ile Ser Pro Lys Ala Ala Arg Val Gly Leu Leu 645 650 655
- Gln Tyr Ser Thr Gln Val His Thr Glu Pne Thr Leu Arg Asn Phe Asn 660 665
- Ser Ala Lys Asp Met Lys Lys Ala Val Ala His Met Lys Tyr Met Gly 675 680 685
- Lys Gly Ser Met Thr Gly Leu Ala Leu Lys His Met Phe Glu Arg Ser
- Phe Thr Gln Gly Glu Gly Ala Arg Pro Leu Ser Thr Arg Val Pro Arg 705 710 715 720
- Ala Ala Ile Val Phe Thr Asp Gly Ard Ala Gln Asp Asp Val Ser Glu 725 730 735
- Trp Ala Ser Lys Ala Lys Ala Asn Gly Ile Thr Met Tyr Ala Val Gly 740 745
- Val Gly Lys Ala Ile Glu Glu Glu Leu Gln Glu Ile Ala Ser Glu Pro 755 760 765
- Thr Asn Lys His Leu Phe Tyr Ala Glu Asp Phe Ser Thr Met Asp Glu 770 780
- Ile Ser Glu Lys Leu Lys Lys Gly Ile Cys Glu Ala Leu Glu Asp Ser 785 790 795 800

Asp Gly Arg Gln Asp Ser Pro Ala Gly Glu Leu Pro Lys Thr Val Gln Gln Pro Thr Glu Ser Glu Pro Val Thr Ile Asn Ile Gln Asp Leu Leu 825 820 Ser Cys Ser Asn Phe Ala Val Gln His Arg Tyr Leu Phe Glu Glu Asp 840 Asn Leu Leu Arg Ser Thr Gln Lys Leu Ser His Ser Thr Lys Pro Ser 855 Gly Ser Pro Leu Glu Glu Lys His Asp Gln Cys Lys Cys Glu Asn Leu 8 - 5 Ile Met Phe Gln Asn Leu Ala Asn Glu Glu Val Arg Lys Leu Thr Gln 890 885 Arg Leu Glu Glu Met Thr Gln Arg Met Glu Ala Leu Glu Asn Arg Leu 905 900 Aig Tyr Arg 915 · .:10: 35 +..11 + 23 .. 12 - DNA . 13 - Artificial Sequence -:_2.0 • Rull3 - Description of Artificial Sequence: Synthetic oligonucleotide probe <400> 35 23 giga:cotgg tigtgaatac tod .210: 36 .111> 22 .212 - DNA ·213> Artificial Sequence +22> Description of Artificial Sequence: Synthetic oligonucleotide probe 22 4005 36 aca ccatgg totatagett gg 37 × 210> <211> 45 Raids DNA

<213> Artificial Sequence

```
<220>
{	imes}225 	imes Description of Artificial Sequence: Synthetic
      cliqonucleotide probe
<400 > 37
                                                                   45
goctyficagt glodbgaygg acabglycto ogcagogalg ggaag
<210> 38
<2115 1813
<212> DNA
<213> Homo sapiens
ggagongeed tgggtytday eggetegget edegegeang etdeggeegt egegeageet 60
oggcadotyd aggtedytyd gtdodynggd tygdyddddi gadtddytdd cygddagyga 120
gggccatgat theoctocog gggcccstgg tgaccaactt getgeggttt ttgiteetgg 180
ggotgagtgo detegogede dentegoggg dedagetgea actgoacttg deegedaace 240
ggttgdaggd ggtggaggga ggggaagtgg tgdttddagd gtggtadadd ttgdadgggg 300
aggigiette alceeageea igggaggige eelitigigal giggilette aaacagaaag 360
aaaaggagga toaggtgttg tootacatca atggggtcac aacaagcaaa cotggagtat 420
 cettggteta etecatgeed teeeggaadd tgteeetgeg getggagggt etecaggaga 480
 aagactotgg occotabago tgotoogtga atgtgcaaga caaacaaggo aaatotaggg 540
godacagoat caaaacotta gaactcaatg tactggttee tecageteet ceatcetgee 600
 gtotocaggg tgtgddddat gtgggggdaa acgtgadddt gagdtgddag tdtddaagga 660
 gtaagcooge tgtccaatac cagtgggate ggcagettee atcettecag actitetitg 720
 mannagnatt aqatgtoato ogtgggtott taagootoac caacettteg tettedatgg 780
 stageotota tytotqcaag qoccacaaty agytygydac tycccaatyt aatytyacyc 840
 tggaagtgag cacagggeet ggagetgeag tggttgetgg agetgttgtg ggtaccetgg 900
 triggantiggg gittgetigget gggetiggted telttgladda degdeggggd aaggeboligg 940
 aggagndage daatgatate aaggaggatg edattgetee deggadeetg deetggedda 1020
 agageteaga cacaatetee aagaatggga eeettteete tgtcacetee geaegageee 1080
 tooggacado coatgodost occaggosty grgcattgae occcaegoso agretereda 1140
 godaggoodt gedotoacda agastgodda ogadagatgg ggoddaddot daacdaatat 1200
 accordations tygitggggtt tottoototg gettgagdeg catgggtget gigeeigiga 1260
 tggtgcctgc ccagagtcaa gctggctctc tggtatgatg accccaccac tcattggcta 1320
 asgganting ggiototoot idotataagg gioadeteta gdadagaggo digagidatg 1380
 ggaaagagto acaeteetga eeettagtad tetgeeeeca eetetetta etgtgggaaa 1440
 arcatotoag taaganotaa gigtooagga gacagaagga gaagaggaag iggatoigga 1500
 attgggagga godtocacco accortgact cotoottatg aagccagetg etgaaattag 1500
 ctactcacca agagtgaggg gcaqagactt coagtcactg agtctcccag gcccccttga 1620
 tetghacede acceptatet aacaedaced tiggeteeda ciccagetee eigiatigat 1690
  ataacetyte aggetygett gyttayyttt taetyyggea gaggatagyg aatetettat 1740
  taaaactaac atgaaatatg tgttgttttc atttgcaaat ttaaataaag atacataatg 1800
  titgtatgaa aaa
  VL10: 39
  ._11 - 390
  <2.12\times~PE.T
  <213 - Homo sapiens
  Met Ile Ser Leu Pro Gly Pro Leu Val Thr Asn Leu Leu Arg Phe Leu
```

1	5			10	15
	ly Leu Ser 20	Ala Leu	Ala Pro E 25	Pro Ser Arg A	la Gln Leu Gln 30
	eu Pro Ala 35	Asn Arg	Leu Gln A	Ala Val Glu (Sly Gly Glu Val 45
		Tyr Thr	Leu His (Gly Glu Val S 60	Ger Ser Gln
Pro Trp G 65	Glu Val Pro	Phe Val	Met Trp	Phe Phe Lys (75	Gln Lys Glu Lys 80
	Gln Val Leu 85	Ser Tyr	Ile Asn	Gly Val Thr	Thr Ser Lys Pro 95
Gly Val S	Ser Leu Val 100	Tyr Ser	Met Pro	Ser Arg Asn	Leu Ser Leu Arg 110
	Gly Leu Gln 115	ı Glu Lys	Asp Ser 120	Gly Pro Tyr	Ser Cys Ser Val 125
Asn Val	Gln Asp Lys	Gln Gly	, Lys Ser	Arg Gly His 140	Ser Ile Lys Thr
145		150			Ser Cys Arg Leu 160
	16	5		1,0	Ser Cys Gln Ser 175
	180		100		Arg Gln Leu Pro 190
	195		200		Ile Arg Gly Ser 205
210		.2 1	. 5		
225		230		234	o Val Thr Leu Glu 240
	24	45		230	y Ala Val Val Gly 255
	260		20	ے	l Leu Leu Tyr His 270
Arg Arg	g Gly Lys A 275	la Leu G	lu Glu Fr 280	o Ala Asn As	p Ile Lys Glu Asp 285

Ala Ile Ala Pro Arg Thi Leu Pro Trp Pro Lys Ser Ser Asp Thr Ile 290 295									
Ser Lys Ash Gly Thr Leu Ser Ser Val Thr Ser Ala Arg Ala Leu Arg 315 320									
Pro Pro His Gly Pro Pro Arg Pro Gly Ala Leu Thr Pro Thr Pro Ser 325									
Leu Ser Ser Gln Ala Leu Pro Ser Pro Arg Leu Pro Thr Thr Asp Gly 340 345									
Ala His Pro Gln Pro Ile Ser Pro Ile Pro Gly Gly Val Ser Ser Ser 365									
Gly Leu Ser Arg Met Gly Ala Val Pro Val Met Val Pro Ala Gln Ser 370 375									
Gln Ala Gly Ser Leu Val 385 390									
<pre><010> 40 <011> 22 <012> DNA <013> Artificial Sequence</pre>									
<pre><220> <3> Description of Artificial Sequence: Synthetic oligonucleotide probe</pre>									
ર400: 40 aqqqtctcca ggagaaagac to									
<pre><_16 > 41 <_11 > 24 <_112 > DNA <_13 > Artificial Sequence</pre>									
#220> #223> Description of Artificial Sequence: Synthetic oligonucleotide probe									
:400> 41 a batagagac tigcagacat agac									
<pre>10> 4211> 5012> DNA13> Artificial Sequence</pre>									
.3169 <2139 Description of Artificial Sequence: Synthetic oligonucleotide probe									

$<\!\!4400\!\!>\!42$ gg-madagda toaagaddt agaadtdaat gtaetggtto etddagetdd	50
<pre><d10> 43 <d11> 18 <d11> DNA <d13> Artificial Sequence</d13></d11></d11></d10></pre>	
<pre><216.> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe</pre>	
<400> 43 gtqtgadada gdgtgggd	18
<pre><u10> 44 <u11> 18 <u12> DNA <u13> Artificial Sequence</u13></u12></u11></u10></pre>	
<pre><220> .220> .220> Description of Artificial Sequence: Synthetic oligonucleotide probe</pre>	
k4005 44 ganoggoagg ottotgog	18
<pre>10> 4510> 2512> DNA13> Artificial Sequence</pre>	
<pre><220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe</pre>	
.400> 45 gagdagotto agodabdagg agtgg	25
210> 46 211> 24 212> DNA 213> Artificial Sequence	
<pre>20>23> Description of Artificial Sequence: Synthetic oligonucleotide probe</pre>	
:400> 46 -tgageogtg ggetgeagte tege	24

```
<211× 45
<1:12> DNA
< 213 - Artificial Sequence
<.120:-
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 47
                                                                   45
cogactacga ctggttcttc atcatgcagg atgacacata tgtgc
<210> 48
<211 > 2812
< 0.12 > DNA
<2113 - Homo sapiens
<400> 48
egecaccant geggedaceg coaatgaaac geeteeeget eetagtggtt titteedactt 60
tgttgaattg ttootataet caaaattgca ccaagacaec ttgteteeca aatgeaaaat 120
gtgaaatadg caatggaatt gaagootgot attgcaadat ggqattttca ggaaatggtg 180
toacaatttg tgaagatgat aatgaatgtg gaaatttaac teagteetgt ggcgaaaatg 240
ctaattgcac taacacagaa ggaagttatt attgtatqtq tqtacctgqc ttcagatcca 300
geagtaacca agacaggttt atcactaatg atggaaccgt ctqtatagaa aatgtgaatg 300
caaactgooa titagataat giotgiatag oigcaaatai taxtaaaact itaacaaaaa 450
teagateeat aaaagaaeet gtggetttge tacaagaagt etatagaaat tetgtgacag 480
atotttoaco aacagatata attacatata tagaaatatt agetgaatca tettoattac 540
taggttacaa gaadaadadt atotoagoda aggadacodt ttotaadtda actottactig 600
aatttgtaaa aaccgtgaat aattttgttc aaagggatac atttgtagtt tgggacaagt 600
tatotgtgaa toataggaga adadatotta daaaadtoat gencactgtt gaadaagdta 720
etttaaggat areecagage tiecaaaaga ecacagaytt tyitacaaat teaacggata 780
tageteteaa agittitetti tittgatteat ataacatgaa abutatteat eeteatatga 940
atatggatgg agastadata aatatattte caaagagaaa agstgcatat gatteaaatg 900
gcaatgttgc agttgcattt thatattata agagtattgg tootttgctt toatcatctg 300
acaacttett attgaaacet caaaattatg ataattetga agaggaggaa agagteatat 10.00
etteagtaat tieagtetea atgageteaa acceaceeae attatatgaa ettgaaaaaa 1080
taadatttad attaagtdat ogaaaggtda dagataggta taggagtdta tgtgdatttt 1140
ggaattacte adetgatace atgaatggea getggtette agagggetgt gagetgacat 1.00
 actcaaatga gadddacadd toatgodgol glaatcaddt gadadatttt gdaattttga 1260
 tgtddtdtgg teettddatt ggtattaaag attataatat tettadaagg atdadtdaad 1310
 taggaataat tatttdactg atttgtcttg coatatgoat tittaecttc tggttcttca 1\% \alpha
 qtgaaattoa augoaccagg abaacaatto acaaaaatot ttgotgtago ctatttottg 1440
 ntgaantigt trittettigtt gygateaata caaatantaa taaqetette tigtteaatna 1900
 tigooggact gotacactae trotititag engettinge algranding attgaaggea 1560
 tacatotota totoattgtt gtgggtgtda totacamdaa gggattttig cacaaqaatt 16.00
 tttatatett tygotatota agoddagoog tyytagttgg attttoggda ydadtaggat 1680
 adagatanta tiggdadaado aaagtatigtt ggottagbad ogaaaadaad tittattitigga 1740
 gttttatagg addagdatgd dtaatdattd tigttaatdt ditggetiit ggagtdatda 1800
 tatacaaagt titticgtcac actgcagggt tgaaaccaga auttagttgc tittgagaada 1860
 taaggtottg tgcaagagga goodtogoto tiotgttoot totoggoado acctggatot 1920
 ttggggttet ecatgttgtg caegeateag tggttaeage tracetette acagteagea 1980
 atgettteea ggggatgtte atttttttat teetgtgtgt titatetaga aagatteaag (040
 aagaatatta cagattgtto aaaaatgtoo ootgttgttt tygatgttta aggtaaadat 1100
 agagaatggt ggataattac aactgcacaa aaataaaaat tocaagctgt ggatgaccaa 2163
```

tgtataaaaa tgactcatca aattatccaa ttattaacta ctagacaaaaa agtattttaa 2220 atcagttttt ctqtttatgc tataggaact gtagataata aqqtaaaatt atqtatcata 2280 tagatatadt atgittitter atgigaaata gittsigidaa aaatagiatt goagatatii 2340 ggaaagtaat tggtttetea ggagtgatat caetgeacee aaqgaaagat tttetteeta 2400 acacgagaag tatatgaatg tootgaagga aaccaetggo ttgatatito tgtgactogt 1460 gttgcctttg aaactagtcc cctaccacct cggtaatgag ctccattaca gaaagtggaa 2520 cataagagaa tgaaggggca gaatatcaaa cagtgaaaag ggaatgataa gatgtatttt 2580 gaatgaactg ttttttctgt agactagctg agaaattgtt gacataaaat aaagaattga 1640 agaaacacat tttaccattt tgtgaattgt tctgaactta aatgtccact aaaacaactt 2700 agacttotgt ttgctaaato tgtttctttt tctaatatto taaaaaaaaa aaaaaggttt 2760 <210> 49 <211> 690 <212> PRT <213> Homo sapiens Met Lys Arg Leu Pro Leu Leu Val Val Phe Ser Thr Leu Leu Asn Cys Ser Tyr Thr Gln Asn Cys Thr Lys Thr Pro Cys Leu Frc Asn Ala Lys Cys Glu Ile Arg Asn Gly Ile Glu Ala Cys Tyr Cys Asn Met Gly Phe Ser Gly Asn Gly Val Thr Ile Cys Glu Asp Asp Asn Glu Cys Gly Asn Leu Thr Gln Ser Cys Gly Glu Asn Ala Asn Cys Thr Asn Thr Glu Gly Ser Tyr Tyr Cys Met Cys Val Pro Gly Phe Arg Ser Ser Ser Asn Gln Asp Arg Phe Ile Thr Asn Asp Gly Thr Val Cys Ile Glu Asn Val Asn Ala Asn Cys His Leu Asp Asn Val Cys Ile Ala Ala Asn Ile Asn Lys 115 Thr Leu Thr Lys Ile Arg Ser Ile Lys Glu Pro Val Ala Leu Leu Gln Glu Val Tyr Arg Asn Ser Val Thr Asp Leu Ser Pro Thi Asp Ile Ile 150 Thr Tyr Ile Glu Ile Leu Ala Glu Ser Ser Ser Leu Leu Gly Tyr Lys

Asn Asn Thr Ile Ser Ala Lys Asp Thr Leu Ser Asn Ser Thr Leu Thr

190 185 180 Glu Phe Val Lys Thr Val Asn Asn Phe Val Gln Arg Asp Thr Phe Val 195 Val Trp Asp Lys Leu Ser Val Asn His Arg Arg Thr His Leu Thr Lys 215 Leu Met His Thr Val Glu Gln Ala Thr Leu Arg Ile Ser Gln Ser Phe 230 Gln Lys Thr Thr Glu Phe Asp Thr Asn Ser Thr Asp Ile Ala Leu Lys 245 $V_{\sigma}l$ Phe Phe Asp Ser Tyı Asn Met Lys His Ile His Pro His Met Asn Met Asp Gly Asp Tyr Ile Asn Ile Phe Pro Lys Arg Lys Ala Ala Tyr Asp Ser Asn Gly Asn Val Ala Val Ala Phe Leu Tyr Tyr Lys Ser 2.95 Ile Gly Pro Leu Leu Ser Ser Ser Asp Asn Phe Leu Leu Lys Pro Gln 310 Ası. Tyr Asp Asn Ser Glu Glu Glu Glu Arg Val Ile Ser Ser Val Ile 325 Ser Val Ser Met Ser Ser Asn Pro Pro Thr Leu Tyr Glu Leu Glu Lys 340 Ile Thr Phe Thr Leu Ser His Arg Lys Val Thr Asp Arg Tyr Arg Ser Leu Cys Ala Phe Trp Asn Tyr Ser Pro Asp Thr Met Asn Gly Ser Trp 375 Ser Ser Glu Gly Cys Glu Leu Thr Tyr Ser Asn Glu Thr His Thr Ser 390 385 Cys Arg Cys Asn His Deu Thr His Phe Ala Ile Leu Met Ser Ser Gly 4.05 Pro Ser Ile Gly Ile Lys Asp Tyr Asn Ile Leu Thr Arg Ile Thr Gln 420 Leu Gly Ile Ile Ser Leu Ile Cys Leu Ala Ile Cys Ile Phe Thi Phe Trp Phe Phe Ser Glu Ile Gln Ser Thr Arg Thr Thr Ile His Lys 455

Asn Leu ('ys Cys Ser Leu Phe Leu Ala Glu Leu Val Phe Leu Val Gly 475 470 465 Ile Asn Thr Asn Thr Asn Lys Leu Phe Cys Ser Ile Ile Ala Gly Leu 490 485 Leu His Tyr Phe Phe Leu Ala Ala Phe Ala Trp Met Cys Ile Glu Gly 505 500 Ile His Leu Tyr Leu Ile Val Val Gly Val Ile Tyr Asn Lys Gly Phe 520 515 Leu His Lys Asn Phe Tyr Ile Phe Gly Tyr Leu Ser Pro Ala Val Val 540 535 Val Gly Fhe Ser Ala Ala Leu Gly Tyr Arg Tyr Tyr Gly Thr Thr Lys 550 Val Cys Trp Leu Ser Thr Glu Asn Asn Phe Ile Trp Ser Phe Ile Gly 570 565 Pro Ala Cys Leu Ile Ile Leu Val Asn Leu Leu Ala Phe Gly Val Ile 585 580 Ile Tyr Lys Val Phe Arg His Thr Ala Gly Leu Lys Pro Glu Val Ser 600 Cys Fhe Glu Asn Ile Arg Ser Cys Ala Arg Gly Ala Leu Ala Leu Leu 615 Phe Leu Leu Gly Thr Thr Trp Ile Phe Gly Val Leu His Val Val His 635 625 Ala Ser Val Val Thr Ala Tyr Leu Phe Thr Val Ser Asn Ala Phe Gln 650 645 Gly Met Phe Ile Phe Leu Phe Leu Cys Val Leu Ser Arg Lys Ile Gln 665 660 Glu Glu Tyr Tyr Arg Leu Phe Lys Asn Val Pro Cys Cys Phe Gly Cys 680 675 Leu Arg €90 .21C> 50 .111> 559 <212> DNA

32133 Homo sapiens

:221 = modified_base

₹2260

<2222 (61)

```
<221 a, t, c or g
tgqqqaatata teeteentea tatqaalatg gatggagant acataaatat attteeaaag 60
nganaageeg geatatggat teaaatggea atgttgeagt tgeattttta tattataaga 120
gtartggted etttgettte atcatetgae aacttettat tgaaacetea aaattatgat 180
aattetgaag aggaggaaag agteatatet teagtaattt eagteteaat gageteaaac 240
concecacat tatatgaact tgaaaaaata acatttacat taagtcatcg aaaggtcaca 300
gataggtata ggagtctatg tggcattttg gaatactcac ctgataccat gaatggcagc 360
tgatcttcag agggctgtga gctgacatac tcaaatgaga cccacacctc atgccgctgt 420
aatcacetga cacattttge aattttgatg teetetggte ettecattgg tattaaagat 480
tataatátto ttacaaggat cactcaacta ggaataatta tttcactgat ttgtcttgcc 540
atatgcattt ttaccttctg gttcttcagt gaaattcaaa gcaccagga
 <210> 51
 <011> =0
 <DIL> DNA
 <213> Artificial Sequence
 <i...> Description of Artificial Sequence: Synthetic
       oligonucleotide probe
                                                                     20
 <4005 51
 gqtaatgagc tccattacag
 .<u>210 - 52</u>
  .211 18
  . 212 DNA
  - 213 - Artificial Sequence
  .__3. Description of Artificial Sequence: Synthetic
        oligonucleotide probe
                                                                      18
  .4005 52
  ggagtagaaa gcgcatgg
  . 210: 53
  .11: 22
    ..1.: DNA
    .1) Artificial Sequence
    220 Description of Artificial Sequence: Synthetic
         oligonucleotide probe
                                                                       22
   . 400 > 53
   macetgatac catgaatggc ag
   .210> 54
   . 111> 18
```

3210> DNA

```
2145 Artificial Sequence
<2...>>
<i...>> Description of Artificial Sequence: Synthetic
      cligonucleotide probe
<4\,\mathrm{tr}\,\mathrm{0}>~5.4
                                                                      18
ogagotogaa ttaattog
<.210 > 55
<211> 18
<212> DNA
<213> Artificial Sequence
<...0>
<1.3> Description of Artificial Sequence: Synthetic
       oligonuclectide probe
<400> 55
                                                                       18
ggateteetg ageteagg
<210> 56
<211> 23
 <212> DNA
 <213> Artificial Sequence
 - JJ0>
 W2238 Description of Artificial Sequence: Synthetic
       oligonucleotide probe
 .400 - 56
                                                                        23
 contagttgag tgatccttgt aag
 ...10× 57
 .211> 50
 ⊲312> DNA
 .213 - Artificial Sequence
 × 3300 ≥
 · 223 > Description of Artificial Sequence: Synthetic
        oligonucleotide probe
                                                                        50
 atgagaccca cacctcatge egetgtaate acctgacaca tittgcaatt
 ...10> 58
  ..:11> 2:137
  - 212> DNA
  .213> Homo sapiens
  .400> 58
  gottoccagoo aagaacctog gggoogotgo goygtgggga ggagttocco gaaaccoggo 60
  ogotaagega ggeeteetee teeegeagat eegaaeggee tgggegggt caeeeegget 120
```

```
gggadaagaa geogeegoot geetgodegg geoogqqqgag qqqqetqqqq etggggeegq 180
aggeggggtg tgagtgggtg tgtgeggggg geggaggett gatgeaatee egataagaaa 240
tgotogggtg tottgggcad ctaccogtgg ggodogtaag gegetaetat ataaggotgd 300
eggeceggag degengegne gteagageag qaqegetgeg tecaggatet agggecaega 360
deateccaac deggeactea cageocogea gegeateceg gtegengene ageotecege 420
accoddateg deggagetge geogagagee deagggaggt geoatgogga gegggtgtgt 480
ggtggtddad gtatggatdd tggddggddt dtggdtggdd gtggddgggd gddddtdgd 540
ottotoggad goggygoddo adgtgdadta oggotggggo gaddddatod godtgoggda 600
cotgtacade teeggeeees aegggetete eagetgette etgegeatee gtgeegaegg 660
cgtcgtgqac tgcgcgcggg gccagagcgc gcacagtttg etggagatca aggcagtcgc 720
tetgeggaed gtggecatea agggegtgea eagegtgegg tacetetgea tgggegeega 780
cggcaagatg caggggetge ttcagtactc ggaggaagac tgtgctttcg aggaggagat 840
cogeocagat ggetacaatg tgtacegate egagaageae egeeteeegg teteeetgag 900
cagtgccaaa cagcggcage tgtacaagaa cagaggettt ettecaetet eteattteet 960
goucatgotg popatggton dagaggaged tgaggadete agggggcoact tggaatetga 1020
datgttotot togoccotog agadogadag datggadoda tittgggottg teacoggadt 1680
ggaggeegtg aggagteeca getttgagaa gtaaetgaga eeatgeeegg geetetteae 1140
tgotgocagg ggotgtggta cotgoagogt gggggaogtg ottotacaag aacagtootg 1.00
agtocacgtt otgittaget tiaggaagaa acatetagaa giiqtacata ticagagiit 1260
tocattggca gtgccagttt ctagccaata gacttgtctg atcataacat tgtaagcctg 1920
tagettgede agetgetgee tgggededea ttetgetede tegaggttge tggadaaget 1380
gotgoactgt otcagttetg ottgaatace tocatogatg gggaactcae tteetttgga 1440
aaaattotta tgtcaagetg aaattotota attittitete atcaettooc caggageage 1500
 cagaagacag gragtagttt taatttcagg aaraggtgat ccartctgta aaacagcagg 1960
 taaatttoac toaaccecat gtgggaattg atetatatet etaetteeag ggaceatttg 1620
 coottoccaa atocctocag gocagaactg actggageag geatggeeca ccaggettea 1680
 ggagtagggg aagdetggag eeccadteea gedetgggad aanttgagaa tteedeetga 1740
 ggocayttet gteatggatg etgteetgag aataaettge tgteeeggtg teacetgett 1800
 coatotodda goodaddago odtotgddda dotdadalyd otoddoatigg attggggddt 1960
 eccaggeeed chadettatg teaacetgea ettettytte aaaaatcagg aaaagaaaag 1920
 atttgaagad oocaagtott gtcaataact tgdtgtgtgg aagdagoggg ggaagaddta 1980
 gaaccettte eccagoactt ggttttecaa catgatattt atgagtaatt tattttgata 1040
 tgtacatoto ttattttott acattattta tgcccccaaa ttatatttat gtatgtaagt ..100
 gaggtttgtt ttgtatatta aaatggagtt tgtttgt
 <210> 59
 <211> 216
 <212> PF.T
 RE13 - Homo sapiens
 <400> 59
 Met Arg Ser Gly Cys Val Val Val His Val Trp Ile Leu Ala Gly Leu
                                       10
   1
 Trp Leu Ala Val Ala Gly Arg Pro Leu Ala Phe Ser Asp Ala Gly Pro
 His Val His Tyr Gly Trp Gly Asp Pro Ile Arg Leu Arg His Leu Tyr
```

Thr Ser Gly Pro His Gly Leu Ser Ser Cys Phe Leu Arg Ile Arg Ala 50 55 60

40

Asp Gly Val Val Asp Cys Ala Arq Gly Gln Ser Ala His Ser Leu ben

Glu Ile Lys Ala Val Ala Leu Arg Thr Val Ala Ile Lys Gly Val His Ser Val Arg Tyr Leu Cys Met Gly Ala Asp Gly Lys Met Gln Gly Leu Leu Gln Tyr Ser Glu Glu Asp Cys Ala Phe Glu Glu Glu Ile Arg Pro Asp Gly Tyr Asn Val Tyr Arg Ser Glu Lys His Arg Leu Pro Val Ser 135 Leu Ser Ser Ala Lys Gln Arg Gln Leu Tyr Lys Asn Arg Gly Phe Leu 155 150 145 Fro Leu Ser His Phe Leu Pro Met Leu Pro Met Val Pro Glu Glu Pro 170 165 Glu Asp Leu Arg Gly His Leu Glu Ser Asp Met Phe Ser Ser Pro Leu 185 Glu Thr Asp Ser Met Asp Pro Phe Gly Leu Val Thr Gly Leu Glu Ala 205 200 Val Arg Ser Pro Ser Phe Glu Lys <210> 60 <1.11> 26 <212> DNA <213> Artificial Sequence <223> Description of Artificial Sequence: Synthetic cligonuclestide probe .:400> 60 26 atcogoccag atggctacaa tgtgta <.310> 61 .:211> 42 -212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe <400> 61 42 gcctcccggt ctccctgagc agtgccaaac agcggcagtg ta

```
<210> 62
<211> 22
<212> DNA
<213> Artificial Sequence
<22.3> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
                                                                   22
<400> 62
ccagtccggt gacaagccca aa
<210 > 63
<211> 1295
<1.12> DNA
 <213> Homo sapiens
occagaagtt caagggeece eggeeteetg egeteetgee geegggaeee tegaeeteet 60
cagagcagee ggetgeegee eegggaagat ggegaggagg ageegeeaee geeteeteet 120
 getgetgetg egetacetgg tggtegeeet gggetateat aaggeetatg ggttttetge 180
 occasaagad caacaagtag toacageagt agagtaccaa gaggetattt tageetgeaa 240
 aandddaaag aagadtyttt odtddagatt agagtggaag aaadtgggto ggagtgtoto 300
 ctttgtctac tatcaacaga ctcttcaagg tgattttaaa aatcgagctg agatgataga 360
 tttcaatate eggateaaaa atgtgacaag aagtgatgeg gggaaatate gttgtgaagt 420
 tagtgcccca tetgageaag gecaaaacet ggaagaggat acagteaete tggaagtatt 490
 agragatica geagitedat datgigaagi accetetici geteigagig gaacigiggi 540
 agagotaoga tgtcaagada sagaagggaa todagotoot gaatacacat ggtttaagga 600
 tggcatcogt ttgctagaaa atcccagact tggctcccaa agcaccaaca gctcatacac 660
 aatgaatada aaaadtggaa dtotgcaatt taatactgtt todaaadtgg acadtggaga 720
 atalteetgt gaageeegea attetettgg atalegeagg tgteetggga aaegaatgea 780
 agtagatgat otoaacataa gtggcatcat agcagoogta gtagttgtgg cottagtgat 840
 ttoogtttgt ggodttggtg tatgdtatgd tdagaggaaa ggdtadtttt daaaaagaaad 900
 otoottocag aagagtaatt ottoatotaa agodacgada atgagtgaaa atgtgcagtg 960
 geteacquet qtaateccag caetttggaa ggocgeggeg ggoggateac gaggteagga 1020
 gttotagadd agtidtggdda atatggtgaa accodatoto tabtaaaata daaaaattag 1080
 ctgggcatgg tggcatgtgc ctgcagttcc agetgettgg gagacaggag aatcacttga 1140
  accogggagg oggaggttgc agtgagctga gatcacgcca ctgcagtcca gcctgggtaa 1200
  dagagdaaga ttodatotoa aaaaataaaa taaataaata aataaatact ggtttttacc 1260
  totagaatto ttacaataaa tatagottga tätto
  .110 > 64
  .:211> 312
  <12 > PRT
  <213 > Homo sapiens
  Met Ala Arg Arg Ser Arg His Arg Leu Leu Leu Leu Leu Arg Tyr
                     5
  Leu Val Val Ala Leu Gly Tyr His Lys Ala Tyr Gly Phe Ser Ala Pro
                                    25
```

- Lys Asp Gln Gln Val Val Thr Ala Val Glu Tyr Gln Glu Ala Ile Leu 35 40 45
- Ala Cys Lys Thr Pro Lys Lys Thr Val Ser Ser Arg Leu Glu Trp Lys
 50 55 60
- Lys Leu Gly Arg Ser Val Ser Phe Val Tyr Tyr Gln Gln Thr Leu Gln 65 70 75
- Gly Asp Phe Lys Asn Arg Ala Glu Met Ile Asp Phe Asn Ile Arg Ilc 85 90
- Lys Asn Val Thr Arg Ser Asp Ala Gly Lys Tyr Arg Cys Glu Val Ser 100 105
- Ala Pro Ser Glu Gln Gly Gln Asn Leu Glu Glu Asp Thr Val Thr Leu 115 120 125
- Glu Val Leu Val Ala Pro Ala Val Pro Ser Cys Glu Val Pro Ser Ser 130 135
- Ala Leu Ser Gly Thr Val Val Glu Leu Arg Cys Gln Asp Lys Glu Gly 145 150 155
- Asn Pro Ala Pro Glu Tyr Thr Trp Phe Lys Asp Gly Ile Aig Leu Leu 175
- Glu Asn Pro Arg Leu Gly Ser Gln Ser Thr Asn Ser Ser Tyr Thr Met 186
- Asn Thr Lys Thr Gly Thr Leu Gln Phe Asn Thr Val Ser Lys Leu Asp 195 200 205
- Thr Gly Glu Tyr Ser Cys Glu Ala Arg Asn Ser Val Gly Tyr Arg Arg 210 220
- Cys Pro Gly Lys Arg Met Gln Val Asp Asp Leu Asn Ile Ser Gly Ile 225 230 230
- Ile Ala Ala Val Val Val Ala Leu Val Ile Ser Val Cys Gly Leu 255
- Gly Val Cys Tyr Ala Gln Arg Lys Gly Tyr Phe Ser Lys Glu Thr Ser 260 .70
- Phe Gln Lys Ser Asn Ser Ser Ser Lys Ala Thr Thr Met Ser Glu Asn 275
- Val Gln Trp Leu Thr Pro Val Ile Pro Ala Leu Trp Lys Ala Ala Ala 290 295
- Gly Gly Ser Arg Gly Gln Glu Phe

```
310
505
<..10> 65
<311> 23
<..125 INA
<di3: Artificial Sequence</pre>
< 0 > 
e223: Description of Artificial Sequence: Synthetic
      oligonucleotide probe
+400> 65
                                                                      22
atograda agttagtgcc cc
+310 - 66
3.211 × 23
<_12 - DNA
<:113. Artificial Sequence</pre>
< 2...0 >
<3u3 > Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400 > €€
                                                                      23
ametgogata todaadagaa ttg
+210 > 67
+..11 > 48
+ ...12 + DHA
.212. Artificial Sequence
Juda: Description of Artificial Sequence: Synthetic
       oligonucleotide probe
4005 57
adaaqaqqat adagtdadtd tggaagtatt agtggdtdda gdagttdd
                                                                      48
 210 > €8
×211> 2639
 \text{JID} \times \text{DNA}
-_13 - Homo sapiens
- 400 → 63
ducated jag gtgggetage actgaaactg ctttteaaga egaggaagag gaggagaaag 60
A paragarga ggaagatgtt gggcaacatt tatttaacat gctccacage ceggaecetg 120
Heatcatgot gotattootg caaatactga agaagcatgg gatttaaata tittacttot 180
anataaatga attadtdaat otootatgad catctataca tadtddadot tdaaaaagta 240
nateaatatt atateattaa ggaaatagta acettetett eteeaatatg catgasattt 300
tiggacaatg caattgtggc actggcactt atttcagtga agaaaaactt tgtggttcta 360
 toggattoat datttgadaa atgdaagdat ottoottato aatdagdtoo tattgaactt 420
 urtageactg actgtggsat cettaaggge ceattaeatt tetgaagaag aaagetaaga 480
 tyaaggabat godactooga attoatgtgo tacttggoot agotateact acactagtac 540
```

```
aagotqtaqa taaaaaagtg gattqtodac ggttatqtac qtgtgaaatc aqqoottqqt 600
ttadadddag atecatttat atggaagdat dtadagtgga ttgtaatgat ttaggtdttt 600
taacttteec agecagattg ccagetaaca cacagattet teteetacag actaacaata 720
rtgcaaaaat tqaalaetee acagaettte eagtaaaeet taetqqeetg gatttatete 780
aadadaattt atottoagto accaatatta atgtaaaaaa gatgootoag otootttotg 840
tgtacctaga ggaaaacaaa cttactgaac tgcctgaaaa atgtctgtcc gaactgagca 900
acttacaaga actotatatt aatcacaact tgotttotac aatttoacct ggagootita 960
toggootada taatottott ogaqttoatd togattoaaa tagattgoag atgatdaada 1000
gtaagtggtt tgatgetett ecaaatetag agattetgat gattggggaa aateeaatta 1080
tragaatraa agaratgaar tttaagrete ttatcaatet tegrageetg gttatagetg 1140
gtataaacct cacagaaata ccagataacg ccttggttgg actggaaaac ttagaaagca 1200
tetettttta egataacagg ettattaaag taccecatgt tgetetteaa aaagttgtaa 1260
atotoaaatt titggatota aataaaaato otattaatag aataogaagg ggtgattita 1320
graatatget acaettaaaa gagttgggga taaataatat geetgagetg atttecateg 1380
atagtettge tgtggataac etqecagatt taagaaaaat agaagetaet aacaacceta 1440
gattgtetta catteacede aatgeatttt teagaeteee caagetggaa teacteatge 1500
tgaacagcaa tgctctcagt gecctgtacc atggtaccat tgagtctctq ccaaacctca 1560
aggaaatcag catacacagt aaccccatca ggtgtgactg tgtcatccgt tggatgaaca 1620
 tgaacaaaac caacattega ttcatggage cagatteact gttttgegtg gaeceacetg 1680
 aattecaagg teagaatgtt eggeaagtge attteaggga eatgatggaa atttgtetee 1740
 cuctuatage teetgagage titteetteta atetaaatgt agaagetggg agetatgtit 1800
 cettteastg tagagetact geagaaceae ageetgaaat etaetggata acaeettetg 1860
 gtcaaaaact cttgcctaat accetgacag acaagtteta tgtccattct gagggaacae 1920
 tagatataaa tggogtaact cccaaagaag ggggtttata tacttgtata gcaactaacc 1980
 tagttggege tgaettgaag tetgttatga teaaagtgga tggatetttt eeacaagata 2040
 adaatggotd tittgaatatt aaaataagag atattdaggd daattdagtt tiggigiddi 2100
 ggaaagcaag ttotaaaatt otoaaatota gtgttaaatg gacagcottt gtcaagactg 1160
 aaaattotoa tgotgoqoaa aqtgotogaa tacoatotga tgtoaaggta tataatotta 1020
 cticatotigas tocaticaact gagtatasaa tittgiatitga tattidocado alictaticaga 2250
 aanadagaaa aaaatgtgta aatgtoadda ddaaaggttt gdadddtgat daaaaagagt 1740
 atgasaagaa taataccada adadttatgg dotgtdttgg aggodttdtg gggattattg 1400
 gtgtgatatg tettateage tgeetetete cagaaatgaa etgtgatggt ggacacaget 1460
 atgtgaggaa ttacttacag aaaccaacct ttgcattagg tgagctttat cctcctctga .:520
 taaatototg ggaagcagga aaagaaaaaa gtacatcact gaaagtaaaa gcaactgtta 2580
 taggtttacc aacaaatatg toctaaaaac caccaaggaa acctactcca aaaatgaac 2639
 <210> 69
 +2.11> 70€
 +212> FET
 .213> Homo sapiens
 Met Ly: Asp Met Pro Leu Arg Ile His Val Leu Leu Gly Leu Ala Ile
                                       10
   1
  Thr Thr Leu Val Gln Ala Val Asp Lys Lys Val Asp Cys Pro Arg Leu
  Cys Thr Cys Glu Ile Arg Pro Trp Phe Thr Pro Arg Ser Ile Tyr Met
```

Glu Ala Ser Thr Val Asp Cys Asn Asp Leu Gly Leu Leu Thr Phe Pro 50 60 Ala Arg Leu Pro Ala Asn Thr Gln Ile Leu Leu Leu Gln Thr Asn Asn 7.0 Ile Ala Lys Ile Glu Tyr Ser Thr Asp Phe Pro Val Asn Leu Thr Gly 85 Leu Asp Leu Ser Gln Asn Asn Leu Ser Ser Val Thr Asn Ile Asn Val 105 Lys Lys Met Pro Gln Leu Leu Ser Val Tyr Leu Glu Glu Asn Lys Leu 115 Thr Glu Leu Pro Glu Lys Cys Leu Ser Glu Leu Ser Asn Leu Gln Glu 140 130 Leu Tyr Ile Asn His Asn Leu Leu Ser Thr Ile Ser Pro Gly Ala Phe 155 150 Ile Gly Leu His Asn Leu Leu Arg Leu His Leu Asn Ser Asn Arg Leu 170 165 Gln Met Ile Asn Ser Lys Trp Phe Asp Ala Leu Pro Asn Leu Glu Ile 185 Leu Met Ile Gly Glu Asn Pro Ile Ile Arg Ile Lys Asp Met Asn Phe Lys Pro Leu Ile Asn Leu Arg Ser Leu Val Ile Ala Gly Ile Asn Leu 215 Thr Glu Ile Pro Asp Asn Ala Leu Val Gly Leu Glu Asn Leu Glu Ser 230 Ile Ser Phe Tyr Asp Asn Arg Leu Ile Lys Val Pro His Val Ala Leu 250 Gln Lys Val Val Asn Leu Lys Phe Leu Asp Leu Asn Lys Asn Pro Ile 265 Asn Arg Ile Arg Arg Gly Asp Phe Ser Asn Met Leu His Leu Lys Glu 280 275 Leu Gly Ile Asn Asn Met Pro Glu Leu Ile Ser Ile Asp Ser Leu Ala 295 Val Asp Asn Leu Pro Asp Leu Arg Lys Ile Glu Ala Thr Asn Asn Pro 310 305 Arg Leu Ser Tyr Ile His Pro Asn Ala Phe Phe Arg Leu Pro Lys Leu 330 325 Glu Ser Leu Met Leu Asn Ser Asn Ala Leu Ser Ala Leu Tyr His Gly

350 345 340 Thr Ile Glu Ser Leu Pro Asn Leu Lys Glu 1le Ser Ile His Ser Asn 355 Pro Ile Arg Cys Asp Cys Val Ile Arg Trp Met Asn Met Asn Lys Thr 375 Asn Ile Arg Phe Met Glu Pro Asp Ser Leu Phe Cys Val Asp Pro Pro 390 Glu Phe Gln Gly Gln Asn Val Arg Gln Val His Phe Arg Asp Met Met 410 405 Glu Ile Cys Leu Pro Leu Ile Ala Pro Glu Ser Phe Pro Ser Asn Leu 430 425 Asn Val Glu Ala Gly Ser Tyr Val Ser Phe His Cys Arg Ala Thr Ala 440 Glu Pro Gln Pro Glu Ile Tyr Trp Ile Thr Pro Ser Gly Gln Lys Leu 455 Leu Pro Asn Thr Leu Thr Asp Lys Phe Tyr Val His Ser Glu Gly Thr Leu Asp Ile Asn Gly Val Thr Pro Lys Glu Gly Gly Leu Tyr Thr Cys 490 Ile Ala Thr Asn Leu Val Gly Ala Asp Leu Lys Ser Val Met Ile Lys 505 Val Asp Gly Ser Phe Pro Gln Asp Asn Asn Gly Ser Leu Asn Ile Lys 515 Ile Arg Asp Ile Gln Ala Asn Ser Val Leu Val Ser Trp Lys Ala Ser 535 Ser Lys Ile Leu Lys Ser Ser Val Lys Trp Thr Ala Phe Val Lys Thr 555 550 545 Glu Asn Ser His Ala Ala Gln Ser Ala Arg Ile Pro Ser Asp Val Lys 570 565 Val Tyr Asn Leu Thr His Leu Asn Pro Ser Thr Glu Tyr Lys Ile Cys 5.85 580 Ile Asp Ile Pro Thr Ile Tyr Gln Lys Asn Arg Lys Lys Cys Val Asn 600 5,95 Val Thr Thr Lys Gly Leu His Pro Asp Gln Lys Glu Tyr Glu Lys Asn 615 610

```
Asn Thr Thr Thr Leu Met Ala Cys Leu Gly Gly Leu Leu Gly Ile Il-
                                       -535
                   630
625
Gly Val Ile Cys Leu Ile Ser Cys Leu Ser Pro Glu Met Ash Cys Asp
                                   650
               645
Gly Gly His Ser Tyr Val Arg Asn Tyr Leu Gln Lys Pro Thr Phe Ala
                               665
           660
Leu Gly Glu Leu Tyr Pro Pro Leu Ile Asn Leu Trp Glu Ala Gly Lys
                           680
Glu Lys Ser Thr Ser Leu Lys Val Lys Ala Thr Val Ile Gly Leu Pro
                                           700
                       695
Thr Asn Met Ser
705
<210> 70
<111> 1305
<212> DNA
<213> Homo sapiens
<400> 70
geeegggaet ggegeaaggt geeeaageaa ggaaagaaat aatgaagaga cacatgtgtt 60
agetgeagee tittgaaaca egeaagaagg aaateaatag tgtggacagg getggaacet 120
ttaccacgot tgttggagta gatgaggaat gggotogtga ttatgotgac attocagoat 180
quatetgyta gacetgtggt taaccegtte ectetecatg tgteteetee tacaaagttt 240
tgttettatg atactgtget tteattetge eagtatgtgt eccaaggget gtotttgtte 300
ttoototggg ggtttaaatg toacotgtag caatgcaaat otoaaggaaa taootagaga 3000
tetteeteet gaaacagtet taetgtatet ggaeteeaat eagateacat etatteesaa 430
tgaaattttt aaggaddtod atdaadtgag agttotoaad otgtobaaaa atggoattga 4\%\%
gittategat gageatgeet teaaaggagt agetgaaace tigeagaete tygastigte 540
 egacaatogg attoaaagtg tgoacaaaaa tgoottoaat aacotgaagg coagggocag 600
 aattgccaac aaccoctggc actgcgactg tactctacag caagttetga ggagcatggc 660
 gtocastoat gagacagood adaacgtgat otgtaasaeg toogtgttgg atgaadatge 7.10
 tggcagadca ttootcaatg otgocaacga ogotgadett tgtaacctoo ctaaaaaaaa 780
 tacegattat gecatgetgg teaceatgtt tggetggtte actatggtga teteatatgt 840
 gotatattat gtgaqqcaaa atcaggagga tgcccggaga cacctcgaat acttgaaatc 900
 cctgccaago aggcagaaga aagcagatga acctgatgat attagcactg tggtatagtg 360
 tecaaaetga etgteattga gaaagaaaga aagtagtttg egattgeagt agaaataagt 1020
 gotttactto toccatocat tgtaaacatt tgaaactttg tatttcagtt titttttgaat 1030
 tatgocacty otgaactttt aacaaacact acaacataaa taatttgagt ttaggtgatc 1140
 cacconttaa tigiaddood gaiggiatai tidigagiaa gotadiatoi gaadattagi 1200
 tagatecate teactattta ataatgaaat ttatttttt aatttaaaag caaataaaag 1260
                                                                 1305
 .110> 71
 -211> 259
 <212> PRT
```

:400> 71

Met Asn Leu Val Asp Leu Tip Leu Thi Arg Ser Leu Ser Met Cys Leu 1 5 16 15

Leu Leu Gln Ser Pho Val Leu Met Ile Leu Cys Phe His Ser Ala Ser 20 25 30

Met Cys Pro Lys Gly Cys Leu Cys Ser Ser Ser Gly Gly Leu Asn Val 35 40 45

Thr Cys Ser Asn Ala Asn Leu Lys Glu Ile Pro Arg Asp Leu Pro Pro 50 55

Glu Thr Val Leu Leu Tyr Leu Asp Ser Asn Gln Ile Thr Ser Ile Pro 65 70 75 80

Asn Glu Ile Phe Lys Asp Leu His Gln Leu Arg Val Leu Asn Leu Ser 85 90 95

Lys Asn Gly Ile Glu Phe Ile Asp Glu His Ala Phe Lys Gly Val Ala 100 105 110

Glu Thr Leu Gln Thr Leu Asp Leu Ser Asp Asn Arg Ile Gln Ser Val

His Lys Asn Ala Phe Asn Asn Leu Lys Ala Arg Ala Arg Ile Ala Asn 130 135 140

Asn Fro Trp His Cys Asp Cys Thr Leu Gln Gln Val Leu Arg Ser Met 145 150 150

Ala Ser Asn His Glu Thr Ala His Asn Val Ile Cys Lys Thr Ser Val 165 170 175

Leu Asp Glu His Ala Gly Arg Pro Phe Leu Asn Ala Ala Asn Asp Ala 180 185

Asp Leu Cys Asn Leu Pro Lys Lys Thr Thr Asp Tyr Ala Met Leu Val 195 200 205

Thr Met Phe Gly Trp Phe Thr Met Val Ile Ser Tyr Val Val Tyr Tyr 210 215

Val Arg Gln Asn Gln Glu Asp Ala Arg Arg His Leu Glu Tyr Leu Lys 225 230 235 240

Ser Leu Pro Ser Arg Gln Lys Lys Ala Asp Glu Pro Asp Asp Ile Ser 245 250 255

Thr Val Val

<210> 72 <211> 2290

```
<2112. DNA
<813 - Homo sapiens
<400 - 72
a ngagonga goggaoogaa qqogoqooog agasqhaqgs gaqdaaqagq atqotqqogg 6)
gaggogtgag gaggatgade agodomated tegostgety goagnocate strongstigg 120
typtyggete agtgetgtea ggeteygesa egggetgeed geologitge gastgeteeg 180
decaggadeg egetgtgetg tgedamegea agtgetttgt ggeagtweed gagggeated 240
ocacogagae gegeetgetg gaeetaggea agaacegeat caaaaa jete aaccaggaeg 300
agttegedag ettedegead etggaggage tggageteaa egagaarate gtgagegeeg 360
tygagoeogg egeetteaac aacetettea aceteegyae getyggtete egmageaace 410
guetgaaget categogeta ggogtettea etggeeteag caacetyade aageaggada 480
teagegagaa caagategtt ateetaetgg actaeatett teagganety tamaacetea 540
agteaetgga ggttggegae aatgaeeteg tetaeatete teaeegegee tthageggee 600
toaacageet ggaqcagetg acgetygaga aatgesacht gadeterate eenadegagg 660
egetytesea netycaegge eteathythe tyaggeting gdadethaad athaatgcca 720
teogggacta etecticaag aggetytare gaeteaangt ettggawate teocactgge 780
entacttgga caecatgaca edeaantged totacogeet daanethacg tenetyteea 840
tracacactg caatetgace getgtgecet acctgorigt regreareta gtrtateted 900
gottootoaa odtotootan aadoonatoa gnadoattiga gggotonatg ttigratgage 960
tgetcegget geaggagate cagetagtag gegggeaaret ggeenstagta gageestatg 1020
cottongogg cottoaactad otgogogtgo toaatgtoto tggcaaccag otgaccacad 1090
tggaggaato agticttocad tigggtigggoa auctgyaljad acticationing gadtocaaco 1140
egetggentg egaetgtegg etectgtggg tyttnegung eegetggegg etesanttes 1200
accggcagca gcccacgtgc gccacgcccg agtttytcca gggcaaggag ttcaaggact 1160
tooctgatgt gotactgood aactantica dotgoogoog ogoongnate ogggadogda 1930
aggeocagna ggtgttttgtg gaegauggeo acaeggtgea gtttgtutg: egggeogatg 1980
goganoogoo gooqgooato ototgardint dadnnegasa goane,ugto thagodawga 1440
ghaatyggog gothadagto tiodolyaig qoangolyga ygtynditab ghodaygtad 1860
aggacaacug dadgsaddig tgcarcgcgg ccascgcggg cggcsacqae tecatgcddg 1500
occacotigna tigtiqogoago taotoliocog actigidocca teasoccaalo aligadentog 10.0
cttficatiotic daacdagoog ggogalggag aggenaadag daceddaged aetgtgedtt 1880
topdottoga datcaagado otdafidatog odarcandat gggotfidati totttootigg 1740
agcacaacat ogaqatogag tatqtgoocc gaaagtogga ogdagqdato agcteogocg 1860
 acgegeeecg caagtteaac atgaaqatga tatqagaccg gggegqqqqqq cagggaeecc 1920
 egggeggeeg egeaggegaa ggggeetget egesacetge teastetsea gtesttesea 1980
 ectectoest accottotas acacettoto titotometo cogostosyt emestgotes 2040
 ondengadag doetdaedad otgonotedt totweeagga dotbagaaud onagadotgg 2100
 ggancocado tacadagggg dattuadaga otggagrtga aagdodabia anogadacgo 1160
 ggdagagtda ataattoaat aaaawagtta dgaadtitot otgtaactig gutttdaata 1.20
 attatggatt titatgaaaa ottgaaataa taakaakka aaaaaaactka asaaaaaaa 2280
                                                                   2290
 aaaaaaaaaa
 <0.10 - 73</p>
 <1.11× 620
 PET
 <213> Homo sapiens
 <400> 73
 Met Gln Val Ser Lys Arg Met Leu Ala Gly Gly Val Arg Ser Met Pro
                                      10
```

Ser Pro Leu Leu Ala Cys Trp Gln Pro Ile Leu Leu Leu Val Leu Gly Ser Val Leu Ser Gly Ser Ala Thr Gly Cys Pro Pro Arg Cys Glu Cys 4.0 Ser Ala Gln Asp Arg Ala Val Leu Cys His Arg Lys Cys Phe Val Ala Val Pro Glu Gly Ile Pro Thr Glu Thr Arg Leu Leu Asp Leu Gly Lys Asn Arg Ile Lys Thr Leu Asn Gln Asp Glu Phe Ala Ser Phe Pro His Leu Glu Glu Leu Glu Leu Asn Glu Asn Ile Val Ser Ala Val Glu Pro 105 Gly Ala Phe Asn Asn Leu Phe Asn Leu Arg Thr Leu Gly Leu Arg Ser 120 Asn Arg Leu Lys Leu Ile Pro Leu Gly Val Phe Thr Gly Leu Ser Asn 135 130 Leu Thr Lys Gln Asp Ile Ser Glu Asn Lys Ile Val Ile Leu Leu Asp Tyr Met Phe Gln Asp Leu Tyr Asn Leu Lys Ser Leu Glu Val Gly Asp 170 Asn Asp Leu Val Tyr Ile Ser His Arg Ala Phe Ser Gly Leu Asn Ser 185 130 Leu Glu Gln Leu Thr Leu Glu Lys Cys Asn Leu Thr Ser Ile Pro Thr 200 Glu Ala Leu Ser His Leu His Gly Leu Ile Val Leu Arg Leu Arg His 210 Leu Asn Ile Asn Ala Ile Arg Asp Tyr Ser Phe Lys Arg Leu Tyr Arg 235 230 225 Leu Lys Val Leu Glu Ile Ser His Trp Pro Tyr Leu Asp Thr Met Thr 245 Pro Asn Cys Leu Tyr Gly Leu Asn Leu Thr Ser Leu Ser Ile Thr His 265 Cys Asn Leu Thr Ala Val Pro Tyr Leu Ala Val Arg His Leu Val Tyr 280

Leu Arg Phe Leu Asn Leu Sei Tyr Asn Pro Ile Ser Thr Ile Glu Gly

Ser Met Leu His Glu Leu Leu Arg Leu Gln Glu Ile Gln Leu Val Gly 315 3.1.0 Gly Gln Leu Ala Val Val Glu Pro Tyr Ala Phe Arg Gly Leu Asn Tyr 325 330 Leu Arg Val Leu Asn Val Ser Gly Asn Gln Leu Thr Thr Leu Glu Glu 345 Ser Val Phe His Ser Val Gly Asn Leu Glu Thr Leu Ile Leu Asp Ser 360 Asn Pro Leu Ala Cys Asp Cys Arg Leu Leu Trp Val Phe Arg Arg Arg Trp Arg Leu Asn Phe Asn Arg Gin Gln Pro Thr Cys Ala Thr Pro Glu 395 390 Phe Val Gln Gly Lys Glu Phe Lys Asp Phe Pro Asp Val Leu Leu Pro 410 Asn Tyr Phe Thr Cys Arg Arg Ala Arg Ile Arg Asp Arg Lys Ala Gln 425 Gln Val Phe Val Asp Glu Gly His Thr Val Gln Phe Val Cys Arg Ala 435 Asp Gly Asp Pro Pro Pro Ala Ile Leu Trp Leu Ser Pro Arg Lys His 455 Leu Val Ser Ala Lys Ser Asn Gly Arg Leu Thr Val Phe Pro Asp Gly 475 470 Thr Leu Glu Val Arg Tyr Ala Gln Val Gln Asp Asn Gly Thr Tyr Leu Cys Ile Ala Ala Asn Ala Gly Gly Asn Asp Ser Met Pro Ala His Leu 505 His Val Arg Ser Tyr Ser Pro Asp Trp Pro His Gln Pro Asn Lys Thr 515 Phe Ala Phe Ile Ser Asn Gln Pro Gly Glu Gly Glu Ala Asn Ser Thr Arg Ala Thr Val Pro Phe Pro Phe Asp Ile Lys Thr Leu Ile Ile Ala 555 550 Thr Thr Met Gly Phe Ile Ser Phe Leu Gly Val Val Leu Phe Cys Leu 570 Val Leu Leu Phe Leu Trp Ser Arg Gly Lys Gly Asn Thr Lys His Asn

580	585 596	
Ile Glu Ile Glu Tyr Val Pro Ar 595 60	g Lys Ser Asp Ala Gly Ile Ser Ser 0 605	
Ala Asp Ala Pro Arg Lys Phe As	n Met Lys Met Ile 620	
<010 > 74 <011 > 20 <010 > DNA <013 > Artificial Sequence		
<pre><320> <123> Description of Artificia</pre>	al Sequence: Synthetic	
<400% 74 teacetggag cetttattgg ee	2	2
<pre><210 > 75 <211 > 23 <212 > DNA <213 > Artificial Sequence</pre>		
<pre><2.00> <3> Description of Artificion cligonucleotide probe</pre>	al Sequence: Synthetic	
<400s 75 atmodageta taaddaggot gog	2	:3
<pre><b10> 76 <b11> 5B <b12> DMA <b13> Artificial Sequence</b13></b12></b11></b10></pre>		
<pre><=20> <pre><able color="block">0210> Description of Artifici</able></pre></pre>	al Sequence: Synthetic	
-400> 76 Gaadagtaag tqqtttgatg otottoo प्रप	ada tetagagata degagaga	50 52
<pre>- U10> 77 - L11> U2 - L1U> DNA - Z12> Artificial Sequence</pre>		
<pre>>2000- <223 - Description of Artifici oligonucleotide probe</pre>	al Sequence: Synthetic	

<400> 77 cmatgtgtot cetectadaa ag	22
<pre><.108 78 <11> 2s <l1.> DNA <1s> Artificial Sequence</l1.></pre>	
<pre><210> <2232 Description of Artificial Sequence: Synthetic oligonucleotide probe</pre>	
<400> 78 qqqqatagat gtgatotgat tgg	23
<pre> <pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre></pre>	
<pre>cd20 > cd23 > Description of Artificial Sequence: Synthetic</pre>	
<400> 79 haddtgtagd aatgdaaatd tdaaggaaat addtagagat dttddtddtg	50
<pre>>10 > 80 >11 > 2212 > DNA >13 > Artificial Sequence</pre>	
<pre>cul0> cul0> c</pre>	
(400% 80) Admaacegee tgaaqeteat ee	22
#210> 81 #211> 21 #210> ENA #213> Artificial Sequence	
*230> *230> *230> *230> Clips Description of Artificial Sequence: Synthetic oligonucleotide probe	
.400> 81 aagregrggt gaaagatgta gaeg	24

-.21c> 52

```
<211 × 50
<212> DNA
<213> Artificial Sequence
<230>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 82
                                                                   50
gadtacatgt ttdaggaddt gtacaaddtd aagtdadtgg aggttggdga
<210> 83
<211> 1685
<212> DNA
<113> Homb sapiens
<400> 83
eccaegogte egeacetegg eccegggete egaagegget egggggegee ettteggtea 60
acategragt coacecete eccatececa geoccegggg atteaggete geoagegeee 120
agecagggag enggeoggga agegegatgg gggeoceage egeetegete etgeteetge 180
testystytt egestystys tyggsgeseg gegggssaa estetesag gasgasages 240
agecetggae atetgatgaa acagtggtgg ctggtggcae cgtggtgete aagtgecaag 300
tgaaagatca cgaggactca tooctgcaat ggtctaaccc tgctcagcag actotctact 350
ttggggagaa gagagoodtt ogagataato gaattoagot ggttacotot acgooddacg 430
agotoagoat dagoatoago aatgtggood tggoagaoga gggogagtad acotgotoaa 480
tetteaetat geetgtgega aetgeeaagt eestegteae tgtgetagga atteckeaga 540
agoddatdat dagtggttat aaatdttdat tadgggaass agsdadagdd adddtssact 600
qtcaqtcttc tgggagdaag cotgdagddc ggetdaoctg gagaaagggt gaddaagaad 660
ticcanggaga addaadddgc atacaggaag atdocaatgg tiaaladdtto adtgticagna 730
geteggtgae attecaggtt accegggagg atgatgggge gageategtg tgetetgtga 750
accatgaato totaaaggga gotgacagat coacctotoa acgoattgaa gttttatada 840
daddaadtgo gatgattagg ddagadddd dddatddtog tgagggddag aagdtgttgo 900
tacactgtga gggtegogge aatecagtee eecagcagta eetatgggag aaggagggea 960
gtgtgedaed octgaagatg accdaggaga gtgeddtgat ettdeettte etdaadaaga 1010
gtgacagtgg cacctacggc tgcacagcca ccagcaacat gggcagctac aaggcctact 1640
anaccetoaa tigttaatgad oodagtoogg tigdootooto otodagcado taddadgoda 1140
thatoggtgg gatogtggot thoattgtot tootgotget catcatgete atottoottg 1200
greattactt gateeggeac aaaggaacet acetgacasa tgaggeaaaa ggeteegacg 1260
argetecaga egeggadaeg gedateatea atgeagaagg egggdagtea ggaggggadg 1500
anaagaagga atattteate tagaggegee tgedeactte etgegeeeed caggggedet 1300
graggadetg ergaggeegt caecaaceeg gaerrataea gageaacege agggeegeee 1440
 ctocogetty diedocaged dadddaeddd deigiacaga aigidigett igggiydggi 1500
 trigitaciog gittoggaatg gggagggagg agggoggyyy @agyggaggg ittgccoicaq 1540
 enettteegt ggettetetg catttgggtt attattattt ttgtaacaat occaaatcaa 1620
 at digitatica aggotiggaga ggdaggagdd diggggtigag aaaaqdaaaa aadaaadaaa 1630
                                                                    1685
 alaca
 ...10> 84
 <211> 398
 RD125 FRT
 <2135 Homo sapiens
```

<4000 84

Met Gly Ala Pro Ala Ala Ser Leu Leu Leu Leu Leu Leu Leu Phe Ala 10 Cys Cys Trp Ala Pro Gly Gly Ala Asn Leu Ser Gln Asp Asp Ser Gln 25 Pro Trp Thr Ser Asp Glu Thr Val Val Ala Gly Gly Thr Val Val Leu Lys Cys Gln Val Lys Asp His Glu Asp Ser Ser Leu Gln Trp Ser Asn 55 Pro Ala Gln Gln Thr Leu Tyr Phe Gly Glu Lys Arg Ala Leu Arg Asp 70 Asn Arg Ile Gln Leu Val Thr Ser Thr Pro His Glu Leu Ser Ile Ser 85 Ile Ser Asn Val Ala Leu Ala Asp Glu Gly Glu Tyr Thr Cys Ser Ile 105 Phe Thr Met Pro Val Arg Thr Ala Lys Ser Leu Val Thr Val Leu Gly Ile Pro Gln Lys Pro Ile Ile Thr Gly Tyr Lys Ser Ser Leu Arg Glu 135 Lys Asp Thr Ala Thr Leu Asn Cys Gln Ser Ser Gly Ser Lys Pro Ala 150 Ala Arg Leu Thr Trp Arg Lys Gly Asp Gln Glu Leu His Gly Glu Pro 170 165 Thr Arg Ile Gln Glu Asp Pro Asn Gly Lys Thr Phe Thr Val Ser Ser 185 Ser Val Thr Phe Gln Val Thr Arg Glu Asp Asp Gly Ala Ser Ile Val 2:00 195 Cys Ser Val Asn His Glu Ser Leu Lys Gly Ala Asp Arg Ser Thr Ser 215 Gln Arg Ile Giu Val Leu Tyr Thr Pro Thr Ala Met Ile Arg Pro Asp 235 Pro Pro His Pro Arg Glu Gly Gln Lys Leu Leu Leu His Cys Glu Gly 250 Arg Gly Asn Pro Val Pro Gln Gln Tyr Leu Trp Glu Lys Glu Gly Ser 265 Val Pro Pro Leu Lys Met Thr Gln Glu Ser Ala Leu Ile Phe Pro Phe

280

Leu Asn Lys Ser Asp Ser Gly Thr Tyr Gly Cys Thr Ala Thr Ser Asn. 295 Met Gly Ser Tyr Lys Ala Tyr Tyr Thr Leu Asn Val Asn Asp Pro Ser 305 Pro Val Pro Ser Ser Ser Ser Thr Tyr His Ala Ile Ile Gly Gly Ile 325 Val Ala Phe Ile Val Phe Leu Leu Leu Ile Met Leu Ile Phe Leu Gly 345 340 His Tyr Leu Ile Arg His Lys Gly Thr Tyr Leu Thr His Glu Ala Lys 360 Gly Ser Asp Asp Ala Pro Asp Ala Asp Thr Ala Ile Ile Asn Ala Glu 375 Gly Gly Gln Ser Gly Gly Asp Asp Lys Lys Glu Tyr Phe Ile 390 385 <210> 85 <211> 22 <212> DNA <_13> Artificial Sequence ed23> Description of Artificial Sequence: Synthetic oligonucleotide probe 3400: 85 22 gritaggaatt ccacagaage cc <110> 86 <1119 22 <_12> DNA <.13 - Artificial Sequence <.:20 <223 Description of Artificial Sequence: Synthetic oligonucleatide probe .400 - 85 22 aacciggaat gtbaccgage tg ·..10 · 87 ×211 · 26 ._12> DNA <113 · Artificial Sequence</pre> 220 -<223> Description of Artificial Sequence: Synthetic

oligonucleotide probe

```
26
<4:0 > 87
ccraqcacag tgacgaggga cttggc
<210→ 88
<2.11 > 50
<211 - DNA
<213 > Artificial Sequence
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
                                                                   50
andadadage caccetaaad tgtbagtott etgggagcaa geetgdagee
<210 > 89
 <211> 50
 <212> DNA
 <213> Artificial Sequence
 <.220>
 <=223> Description of Artificial Sequence: Synthetic
       oligonucleotide probe
                                                                    50
 greetiggeag aegalggega gtalacetge teaatettea etatgeetgt
 .10 - 90
 ...11 - 2755
 212 - LNA
 .213  Homo sapiens
 gaggattagg gaggaaagaa tocadddca cddddaaa dddttttdtt dtddtttddt 60
 agattoggad attagagdad takatgaadt tgaattgtgt otgtggogag daggatggtd 120
 gotgttaott tgtgatgaga toggggatga attgotogot ttaaaaaatgo tgotttggat 180
  totgttgctg gagacgtcte tttgttttgc cgctggaaac gttacagggg acgtttgcaa 240
  agagaagate tgtmoetgea atgagataga aggggaeeta caegtagaet gtgaaaaaaa 300
  aggetteaca agtotycage gitteactge edegactice eagittiace attiatitet 360
  udatggwaat toostosete gaetttteee taatgagtte getaaetttt ataatgeggt 420
  tagittgcac atggaaaaca atggettgca tgaaategit eegqgggett tictgggget 490
  quagetggtg aasaggetge acateaacaa caacaagate aagtetttte gaaagcagae 540
  :tttotgggg otggaogato tggaatatot ocaggotgat tttaatttat taogagatat 600
  agadddyggg gddttddagg adttgaadaa gdtggaggtg dtdattttaa atgadaatdt 600
  nathaghadd clandigdda angigtiona gialqigddd aldadddadd iogaediodg 720
  gggtaadagg otgaaaadge tydootatga ggaggtottg gagdaaated otggtattgd 780
  agagateetg etagaggata accettggga etgeacetgt gatetgetet eestgaaaga 840
  abggotggaa aacattooca agaatgooct gatoggooga gtggtotgog aagooccac 900
  nagactgcag ggtaaagacc tcaatgaaac caccgaacag gacttgtgtc ctttgaaaaa 960
  ocqagtggat totagtotoc eggegeeece tgeccaagaa gagaeetttg etectggaee 1020
  ootgocaact cotttoaaga caaatgygca agaggateat gocacaccaq ggtetgetee 1080
```

```
adanggaggt anaadqatoo daggdaanty gnagatdada atdagannda nagdagegat 1140
ag gangggt agntonagga anaaandott agntaanagt ttannotyon otgggggtig 1200
caqotgogad dacatoocaq qqtngggttt aaagatgaad tgcaacaaca ggaangtgag 1260
cagettgget gatttgaage ecaaqetete taaegtgeag gagettttee taegagataa 1-20
caagatooad agnatoogaa aatoodaott tgtggattad aagaadotda ttotgttgga 1-81
totgggdaad aataadatog otaotgtaga gaadaadadt ttoaagaadd ttttggaddt 144)
caggiggeta tacatggata geaattacet ggacacgetg teeegggaga aattegeggg 1500
getgdaaaad otagagtade tgaadgtgga gtacaadget atddagetda teetdeeggg 1560
cactiticaat godatgooda aactgaggat deteattete aadaadaade tgotgaggte 1620
octgootgty gaogtgttog otggggtoto gotototaaa otoagootgo acaacaatta 1690
ottoatgtad otocoggtog daggggtgot ggaddagtta addtodatda todagataga 1740
cotocacgga aaccootggg agtgotoctg cacaattgtg cotttcaago agtgggcaga 1800
acgettgggt teegaagtge tgatgagega eetcaagtgt gagaegeegg tgaaettett 1860
tadaaaaggat tidatgetee teteeaatga egagatetge eeteagetgt aegetaggat 1920
ctoquocacg ttaacttoge acagraadaa caqoaotggg ttggqqqqaqa ccggqacqca 1980
ctocaactoc tacctagica ccagcagggt grocatorog grgrrgytoc egggactgot 2040
gotygtgutt gudadotoog oottoadogt ggtgggdatg otogtgttta tootgaggaa 1100
doqaaagogg tocaagagad gagatgodaa otootoogog toogagatta attooctada 1160
gadagtetgt gactetteet actggeadaa tgggeettad aadgeagatg gggeedadag 2220
 agtgtatgae tgtggetete aetegetete agaetaagae eecaacceca ataggggagg 3080
 goagagggaa ggogatadat cettececae egcaggeace cegggggetg gaggggett 3340
 tadocaaato oongogodat dagootggat gggdataagt agataaataa etgtgagete 2400
 gracaadoga aagggootga coodttactt ageteeetee tigaaadaaa gagcagactg 2460
 tggagagetg ggagagegea gecagetege tetttgetga gagecettt tgacagaaag 2520
 codagdaoga ocotgotoga agaadtgada gtoddotogo octoggoddo ggggddtgtg 2580
 gggttggatg degeggttet atacatatat acatatated acatetatat agagagatag 2640
 atabetattt treceetigig gattageede grigatiggete eergtrigget aegeagggat 2700
 gageagtige acganggeat gaatgtatig taaataagta actttgactt ctgac
 <110> 91
 .111: 696
 , 0.125 PF.T
 .113> Homo sapiens
 Met Leu Leu Trp Ile Leu Leu Glu Thr Ser Leu Cys Phe Ala Ala
  Gly Asn Val Thr Gly Asp Val Cys Lys Glu Lys Ile Cys Ser Cys Asn
  Glu lle Glu Gly Asp Leu His Val Asp Cys Glu Lys Lys Gly Phe Thr
                               40
  Ser Leu Gln Arg Fhe Thr Ala Pro Thr Ser Gln Fhe Tyr His Leu Fhe
```

Phe Tyr Asn Ala Val Ser Leu His Met Glu Asn Asn Gly Leu His Glu
90
95

Leu His Gly Asn Ser Leu Thr Arg Leu Phe Pro Asn Glu Phe Ala Asn

lle Val Pro Gly Ala Phe Leu Gly Leu Gln Leu Val Lys Arg Leu His 105 Ile Asn Asn Asn Lys Ile Lys Ser Phe Arg Lys Gln Thr Phe Leu Gly 120 Leu Asp Asp Leu Glu Tyr Leu Gln Ala Asp Phe Asn Leu Leu Arg Asp 135 Ile Asp Pro Gly Ala Phe Gln Asp Leu Asn Lys Leu Glu Val Leu Ile Leu Asn Asp Asn Leu Ile Ser Thr Leu Pro Ala Asn Val Phe Gln Tyr 170 165 Val Pro Ile Thr His Leu Asp Leu Arg Gly Asn Arg Leu Lys Thr Leu 185 180 Fro Tyr Glu Glu Val Leu Glu Gln Ile Pro Gly Ile Ala Glu Ile Leu 200 Leu Glu Asp Asn Pro Trp Asp Cys Thr Cys Asp Leu Leu Ser Leu Lys 215 210 Glu Trp Leu Glu Asn Ile Pro Lys Asn Ala Leu Ile Gly Arg Val Val 235 230 Cys Glu Ala Fro Thr Arg Leu Gln Gly Lys Asp Leu Asn Glu Thr Thr 245 Glu Gln Asp Leu Cys Pro Leu Lys Asn Arg Val Asp Ser Ser Leu Pro 265 Ala Pro Pro Ala Gln Glu Glu Thr Phe Ala Pro Gly Pro Leu Pro Thr Pro Phe Lys Thr Asn Gly Gln Glu Asp His Ala Thr Pro Gly Ser Ala 290 Pro Asn Gly Gly Thr Lys Ile Pro Gly Asn Trp Gln Ile Lys Ile Arg 315 310 Pro Thr Ala Ala Ile Ala Thr Gly Ser Ser Arg Asn Lys Pro Leu Ala 3.30 Asn Ser Leu Pro Cys Pro Gly Gly Cys Ser Cys Asp His Ile Pro Gly 345 340 Ser Gly Leu Lys Met Asn Cys Asn Asn Arg Asn Val Ser Ser Leu Ala Asp Leu Lys Pro Lys Leu Ser Asn Val Gln Glu Leu Phe Leu Arg Asp

375

- Asn Lys Ile His Ser Ile Arg Lys Ser His Phe Val Asp Tyr Lys Asn 385
- Leu Ile Leu Leu Asp Leu Gly Asn Asn Ile Alà Thr Val Glu Asn 415
- Asn Thr Phe Lys Asn Leu Leu Asp Leu Arg Trp Leu Tyr Met Asp Ser 420
- Asn Tyr Leu Asp Thr Leu Ser Arg Glu Lys Phe Ala Gly Leu Gln Asn 435
- Leu Glu Tyr Leu Asn Val Glu Tyr Asn Ala Ile Gln Leu Ile Leu Pro 450 460
- Gly Thr Phe Asn Ala Met Pro Lys Leu Arg Ile Leu Ile Leu Asn Asn 465 475 475
- Asn Leu Leu Arg Ser Leu Pro Val Asp Val Phe Ala Gly Val Ser Leu 495
- Ser Lys Leu Ser Leu His Asn Asn Tyr Phe Met Tyr Leu Pro Val Ala 500
- Gly Val Leu Asp Gln Leu Thr Ser Ile Ile Gln Ile Asp Leu His Gly 515
- Asn Pro Trp Glu Cys Ser Cys Thr Ile Val Pro Phe Lys Gln Trp Ala 530
- Glu Arg Leu Gly Ser Glu Val Leu Met Ser Asp Leu Lys Cys Glu Thr 545 550 560
- Pro Val Asn Phe Phe Arg Lys Asp Phe Met Leu Leu Ser Asn Asp Glu 575
- Ile Cys Pro Gln Leu Tyr Ala Arg Ile Ser Pro Thr Leu Thr Ser His 580 585
- Ser Lys Asn Ser Thr Gly Leu Ala Glu Thr Gly Thr His Ser Asn Ser 595
- Tyr Leu Asp Thr Ser Arg Val Ser Ile Ser Val Leu Val Pro Gly Leu 610 620
- Leu Leu Val Phe Val Thr Ser Ala Phe Thr Val Val Gly Met Leu Val 625 630 630
- Phe Ile Leu Arg Asn Arg Lys Arg Ser Lys Arg Arg Asp Ala Asn Ser 655
- Ser Ala Ser Glu Ile Asn Ser Leu Gln Thr Val Cys Asp Ser Ser Tyr

€70 665 660 Trp His Asn Gly Pro Tyr Asn Ala Asp Gly Ala His Arg Val Tyr Asp 680 Cyp Gly Ser His Ser Leu Ser Asp 695 690 <010> 92 <211 > 20 <21.2 DNA <213> Artificial Sequence <== > Description of Artificial Sequence: Synthetic < 0.1.0 > oligonucleotide probe 22 <400> 92 gttqqatctg ggcaacaata ac <210 > 93 <211> 24 <212> DNA . 13: Artificial Sequence .223 Description of Artificial Sequence: Synthetic oligenueleotide probe 24 .400.5 93 attgttgtgd aggdtgagtt taag .210p 94 .2115 45 *L12> DNA .013. Artificial Sequence . 223: Description of Artificial Sequence: Synthetic . <u>1</u>265 oligonucleotide probe 45 100 - 94 ontogotata catggatage aattacetgg acaegetgte coggg ...10 > 95 111> 2226 . Jlas DNA .313> Homo sapiens agtogactgo gtoccotgta cooggogoca gotgtgttoc tgaccocaga ataactcagg 60 getgeacogg geetggeage geteegeaca eattteetgt egeggeetaa gggaaactgt 120 tggccgctgq geccgcgggg ggattettgg cagttggggg qtccgtcggg agcgaggggg 180

```
qaqqqqaagq qaqqqqaac egqqttqqqgq aaqebaqetq taqaqqqqqq tqabeqqqt z40
ecagadadaq etetgegide tegagoqqqa dagatodaag tigggagdaq etetgeqtiqe 300
gggandtoay agaatgagge eggegttege detqtycete etetqgcagg egetetggee 360
egggeeggg: ggeggegaad accidaetge egadegtget ggetgetegg eeteggggge 42\%
ctgctacage etgcaceaeg etaceatgaa gegqcaggeg geogaggagg estgcathet 480
gcgaggtggg gegeteagea degtgegtge gggegeegag etgegegetg tgetegeget 540
cetgoggges ggcccaggge ceggaggggg etecsaaagae etgetgttet gggtegeaet 600
ggagegeagg egtteeeaet geaecetgga gaarqageet ttgeggggtt teteetgget 660
gtontocgad dodggoggte tegaaagoga dadqotgdag tgggtggagg agocodaabg 72.0\,
otootgoaco gegoggagat gogoggtact coaqqocaco ggtggggteg agecogcagg 780
otggaaggag atgegatges acotgegege caaeggetae otgtgeaagt accagttiga 840
ggtottgtgt ontgegoege geecegggge egentetaan tigagetate gegogeentt 900
ocagotgoad agogoogoto tgqacttdag tocacotggg acogaggtga gtgcgctdtg 960
cogagaranag etecogatet cagttaettg categoggae gaaateggeg etegetygga 1020
caaactotog ggogatgtgt tgtgtoestg coosyggagg tabotocotg otggoaaatg 1080
ogdagagete cetaactgee tagacquett gegaggettt geetgegaat gtgetacqqg 1140
 ottogagotg gggaaggaog googototty tytgaecayt gyggaaggae agoogaecot 1200
 tggggggand ggggtgddda ddaggddddo gdnggddadt gdaandagdd ddgtgddgda 1260
 gagaacatgg ccaatcaggg togacgagaa gotgggagag acaccacttg tocctgaaca 1330
 agadaattoa gtaadatota ttootgagat tootogatgg ggatdadaga gdadgatgto 1390
 taccetteaa atgteeette aageegagte aaaggeeact ateaceedat cagagagegt 1440
 gatttccaag tttaattcta cgacttcctc tgccactcct caggetttcg actectcctc 1900
 tgccgtggtc ttcatatttg tgagcadagc agtagtagtg ttggtgatct tgaccatgac 1560
 agtactgggg cttgtcaage tetgetttea egasagedee tetteccage caaggaagga 1620
 gtotatgggo cegeegggoo tggagagtga tootgagooc getgetttgg geteeagtte 1680
 tydacattyc acaaacaaty gygtgaaagt cyyggactyt gatetycygg acagagcaga 1740
 gugtgacttg etgaeggagt ecectettgg etetagtgat geatagggaa acaggggaca 1800
 tgggdactoc tgtgaacagt tittcacttt tgatgaaacg gggaaccaag aggaacttac 1960
 togtglaadt gacaatttet geagaaatee eestteetet aaatteestt tastematig 1920
 aggagotada toagaaotgo acaeteette eetgatgata gaggaagtgg aaqtgonttt 1980
 aggatggtga tactggggga cogggtagtg ctggggagag atattttctt atutttattc 1:40
 ggagaatttg gagaagtgat tgaastttts aagasattgg aaacaaatag aasasatat 1:100
  aatttamatt aaaaaataat tidtaddaaa atggaaagga aatgtimtat gitgiimagg 2100
  ctaggagtat attggttega aatercaggg aaaaaaataa aaataaaaaa ttaaaggatt 1920
  gttgat
  <110> 96
  2211> 490
  . 12> FFT
  <213 > Homo sapiens
  Met Arg Pro Ala Phe Ala Leu Cys Leu Leu Trp Gln Ala Leu Tip Fro
   Gly Pro Gly Gly Gly Glu His Pro Thr Ala Asp Arg Ala Gly (ys Ser
   Ala Ser Gly Ala Cys Tyr Ser Leu His His Ala Thr Met Lys Arg Gln
```

Ala Ala Glu Glu Ala Cys Ile Leu Arg Gly Gly Ala Leu Ser Thr Val 55 50

Arg Ala				70										
Pro Gly	, Pro	Gly	Gly 85	Gly	Ser	Lys	Asp	Leu 90	Leu	Phe	Trp	Val A	Ala 95	Leu
Glu Arg		100					10.5							
Phe Se	115	5				12.0								
Gln Tr 13	0				13:									
Val Le 145				150)									
Arg Cy			16)					-					
Val Le		18	0				1.5	_						
Arg A	19	95				<i>-</i> 0								
	10				21	.5								
Thr C				2.	s O									
Asp V			24	15					, ,					
		2	60				<u> </u>	00						s Glu
	3	275				4	00							1 Thr
	290				2	95								ir Arg
305				4	10				_					p Pro 320
Ile	Arg	Val A	Asp (Glu I 325	lys I	.eu (Gly (Glu I	hr F	ro L	eu V	al Pr	10 G. 31	lu Gln 35
Asp	Asn	Ser	Val '	Fhr :	Ser :	11e :	Pro (Glu :	[le B	Pro A	rg T	rp Gl	y S	er Gln

340	
Ser Thi Met Ser Thi Leu Gli Met Ser Leu Gli Ala Glu Ser Lys . 365	
Thr Ile Thr Pro Ser Gly Ser Val Ile Ser Lys Phe Asn Ser Thr 370 375	Thr
Ser Ser Ala Thr Pro Gln Ala Phe Asp Ser Ser Ser Ala Val Val	Phe 400
Ile Phe Val Ser Thr Ala Val Val Val Leu Val Ile Leu Thr Met 415	Thr
Val Leu Gly Leu Val Lys Leu Cys Phe His Glu Ser Pro Ser Ser 420 425	Gln
Pro Arg Lys Glu Ser Met Gly Pro Pro Gly Leu Glu Ser Asp Pro 445 435	Glu
Pro Ala Ala Leu Gly Ser Ser Ser Ala His Cys Thr Asn Asn Gly 450 450	
Lys Val Gly Asp Cys Asp Leu Arg Asp Arg Ala Glu Gly Ala Leu 475	1 Leu 480
Ala Glu Ser Pro Leu Gly Ser Ser Asp Ala 485	
<pre><u10> 97 <u11> 24 <u12> DNA <u13> Artificial Sequence</u13></u12></u11></u10></pre>	
<pre><320> <323> Description of Artificial Sequence: Synthetic</pre>	
<400> 97 tggaaggaga tgcgatgcca cctg	24
.210> 98 .211> 10 .212> DNA .213> Artificial Sequence	
<pre>%210> %213> Description of Artificial Sequence: Synthetic oligonucleotide probe</pre>	
<400> 98 tgasdagtgg ggaaggadag	20

```
2210 - 99
<211 + 20
<11. DNA
<11. Artificial Sequence
<2.200
<Lu:  Description of Artificial Sequence: Synthetic</pre>
      oligonucleotide probe
                                                                   2.0
<400 > 99
amagagcaga gggtgccttg
<_10> 100
<111> 24
<_115> DNA
<=22:> Description of Artificial Sequence: Synthetic
       oligonucleotide probe
                                                                    24
 <400> 100
 tcagggacaa gtggtgtctc tccc
 .310> 101
 . 11> 24
 . _13> DNA
 2132 Artificial Sequence
 ...23> Description of Artificial Sequence: Synthetic
       oligonucleotide probe
 ..400 > 101
                                                                     24
 tragggaagg agtgtgcagt totg
  210> 103
  .311> 50
  . _12> IMA
 - 213> Artificial Sequence
  ...23: Description of Artificial Sequence: Synthetic
  . 2205
        oligonucleotide probe
                                                                     50
  . 4005 102
  amageteeeg ateteagtta ettgeatege ggaegaaate ggegeteget
  2210> 103
  .11> 2026
  .2125 DNA
   <213> Homo sapiens
```

```
-400 - 10:
nggangnytig qijattidagda qtiggddtigtig gntigddagag nagntiddtda ggggaaadta 60
agequegagt cagaeggeae cataateges tttaaaagtg cetesgeest geeggeegeg 120
tatededegg ctacctiggge egocogogg cqqtqcqogc gtgagaggga gcgcgogggc 180
agniqagege nggtigtigage dagegetiget gedagtigtiga geggeggtigt gagegeggtig 240
ggtgeggagg ggegtgtgtg deggegegeg egeegtgggg tgeaaaceee gagegtetae 300
get queatga ggggegegaa egeetgggeg ceactetgee tgetgetgge tgeegeeadd 340
candictedge ggeageagte eddagagaga edtgittitea eatgiggigg cattettaet 4..0\,
ggagagtetg gatttattgg cagtgaaggt tttcctggag tgtaccetce aaatageaaa 490
tqtacttqqa aaatcacagt toocgaagga aaagtagteg ttotcaattt cogattcata 540
gaeetegaga gtgaeaaeet gtgeegetat gaetttgtgg atgtgtaeaa tggeeatgee 600
aatggccage gcattggceg ettetgtggc actttccggc etggagcect tgtgtccagt 660
ggdaadaaga tgatggtgda gatgatttet gatgddaaca cagetggdaa tggetteatg 750
genatiquict degetigetga accaaacgaa agaggggate agtattigtigg aggacteett 780
garagacett deggetemtt taaaaeened aactggccag acegggatta cectgcagga 840
gtractigtig tgtgggadat tgtagdodda aaqaatdagd ttatagaatt aaagtttgag 900
aaqtttgatg tggagogaga taactactgo ogatatgatt atgtggotgt gtttaatggo 900
ggagaagtoa acgatgotag aagaattgga aagtattgtg gtgatagtoc acctgogoca 1000
attgtgtotg agagaaatga acttottatt cagtttttat cagacttaag tttaactgca 1080
gatgggttta ttggtdadta datattdagg ddaaaaaaad tgddtadaad tadagaadag 1140
ccugucacca ccadattocc tgtaaccacg ggtttaaaaac ccaccgtggc cttgtgtcaa 1200
caaaagtyta gacggacggg gactotggag ggcaattatt gttcaagtga otttgtatta 1960
geogypactg ttatcacaad dateactege gatgggagtt tgcacgedad agtotogate 1320
atcancatot acamagaggg aaatttggog attcagcagg cgggcaagaa catgagtgoc 1380
aggotgaetg tegtetgeaa geagtgeest eteeteagaa gaggtetaaa ttadattatt 1440
atygoccaag tagotgaaga tgggcgaggc aaaatcatgc caaacagctt tatcatgatg 1500
ttoasgacca agastoagaa gotootggat goottaaaaa ataagcaatg ttaacagtga 1560
actgrigtora tittaagetigt attetgeeat tgeettigaa agatetatgt teteteagta 1620
qaaa daaaaa tacttataaa attasatatt otgaaagagg attoogaaag atgggastgg 1690
ttgantette acatgatgga ggtatgagge eteegagata getgagggaa gttetttgee 1740
tgotiatdaga ggagbagota totgattgga aadotgeega ottagtgegg tgataggaag 1900
ctaasagtgt caagogttga cagettggaa gegtttattt ataeatetet gtaaaaggat 1980
attt:agaat tgagttgtgt gaagatgtoa aaaaaagatt ttagaagtgo aatatttata 1910
grgtiatitg titleadette aageettige eetgaggigt tabaatetig teitgegitt 1980
 totanatoka tgottaataa aatattttta aaggaaaaaa aaaaaa
 \approx 210 \times 104
 \pm 211 + 415
 <2.12 → FET
 R213 - Homo sapiens
 4400 104
 Mot Ary Gly Ala Ash Ala Trp Ala Pro Leu Cys Leu Leu Leu Ala Ala
                                       10
 Ala Thr Gln Leu Ser Arg Gln Gln Ser Pro Glu Arg Pro Val Phe Thr
              20
 Cys Gly Gly Ile Leu Thr Gly Glu Ser Gly Phe Ile Gly Ser Glu Gly
                                                    45
                               40
 Phe Pro Gly Val Tyr Pro Pro Ash Ser Lys Cys Thr Trp Lys Ile Thr
                           55
      50
```

0.026

Val Pro Glu Gly Lys Val Val Val Leu Asn Phe Arg Phe Ile Asp Leu Glu Ser Asp Asn Leu Cys Arg Tyr Asp Phe Val Asp Val Tyr Asn Gly His Ala Asn Gly Gln Arg Ile Gly Arg Phe Cys Gly Thr Phe Arg Pro 105 Gly Ala Leu Val Ser Ser Gly Asn Lys Met Met Val Gln Met Ile Ser Asp Ala Asn Thr Ala Gly Asn Gly Phe Met Ala Met Phe Ser Ala Ala Glu Pro Asn Glu Arg Gly Asp Gln Tyr Cys Gly Gly Leu Leu Asp Arg 150 Fro Ser Gly Ser Phe Lys Thr Pro Asn Trp Pro Asp Arg Asp Tyr Pro 170 Ala Gly Val Thr Cys Val Trp His Ile Val Ala Pro Lys Asn Gln Leu 185 Ile Glu Leu Lys Fhe Glu Lys Phe Asp Val Glu Arg Asp Asn Tyr Cys 200 Arg Tyr Asp Tyr Val Ala Val Phe Asn Giy Gly Glu Val Asn Asp Ala 215 Arg Arg Ile Gly Lys Tyr Cys Gly Asp Ser Pro Pro Ala Pro Ile Val 235 230 Ser Glu Arg Asn Glu Leu Leu Ile Gln Phe Leu Ser Asp Leu Ser Leu Thr Ala Asp Gly Phe Ile Gly His Tyr Ile Phe Arg Pro Lys Lys Leu 265 Pro Thr Thr Thr Glu Gln Fro Val Thr Thr Thr Fhe Pro Val Thr Thr 275 Gly Leu Lys Pro Thr Val Ala Leu Cys Gln Gln Lys Cys Arg Arg Thr 295 Gly Thr Leu Glu Gly Asn Tyr Cys Ser Ser Asp Phe Val Leu Ala Gly 315 310 Thr Val Ile Thr Thr Ile Thr Arg Asp Gly Ser Leu His Ala Thr Val 325 Ser Ile Ile Asn Ile Tyr Lys Glu Gly Asn Leu Ala Ile Gln Gln Ala

340	345 350	
Gly Lys Asn Met Ser Ala Arg Leu 355 360	Thr Val Val Cys Lys Gln C	ys Pro
Let Let Arg Arg Gly Let Asn Tyr 370 375	Ile Ile Met Gly Gln Val G 380	aly Glu
Asp Gly Arg Gly Lys Ile Met Pro	Asn Ser Phe Ile Met Met E 395	he Lys 400
Thr Lys Asn Gln Lys Leu Leu Asp 405	Ala Leu Lys Asn Lys Gln G 410	Cys 115
<pre><10> 105 </pre> <pre></pre> <pre><!--</td--><td>Sequence: Synthetic</td><td></td></pre>	Sequence: Synthetic	
<pre><400> 105 ccgattcata gacetegaga gt</pre>		22
<pre> «:10 · 106 «:11 · 2.3 «:12 · DNA .::13 · Artificial Sequence «:10 · «::13 · Description of Artificia *:::14 · Description of Artificia *:::15 · Description of Artificia *:::16 · Description of Artificia *::16 · Description of Artificia *::16 · Description of Artificia *::16 · Description of Artificia *:16 · Description of Artificia *:16 · Description of Artificia *:17 · Description of Artificia *:18 · Descrip</pre>	l Sequence: Synthetic	
oligonucleotide probe <400 > 106 gtcanggagt cotocacaat ac		22
<pre></pre>		
20 > 23 > Description of Artificia 	l Sequence: Synthetic	
.400> 107 qtgtadaatg godatgddaa tggddagd	ge attggeeget tetgt	45
- 105 108 - 115 1838 - 2125 INA		

213 Homo sapiens

```
<400 - 108
ngqangogtiq qgnqqaoyng tgggoggodd anggognng ngggotgqqq nqqtogntto 60
tindutated giggestaeg agggiesessa gesigggiaa agaiggeses aiggeseseg 110
aagggootag toocagotgt gototggggo otcagootot tootcaadot oosaggacot 180
atotygotod ageostotod acctoodday tottotoddo egostoaydd esatebytyt 240
datacetgee ggggaetggt tgadagettt aacaagggee tggagagaac catdegggae 300
aantttggag gtggaaacac tgcctgggag gaagagaatt tgtccaaata caaagacagt 360
gagadoogoo tggtagaggt gotggagqqt gtgtgcagca agtcagactt ogagtgccac 420
egeetgetgg agetgagtga ggagetggtg gagagetggt ggttteacaa geageaggag 480
geologica tettecagti getigtigetea gattecetiga agetetigetig eelegeagge 540
achtteggge eeteetgeet teeetgteet gggggaadag agaggeestg eggtggetad 600
gggcagtgtg aaggagaagg gacacgaggg ggcagcgggc actgtgactg ccaagccggc 660
taogggggtg aggoetgigg coagtgtggd oliggetact tigaggcaga acgcaacgcd 720
agreatetgg tatgttegge ttgttttgge eestgtgeen gatgeteagg aestgaggaa 780
tcaaactgtt tgcaatgcaa gaagggctgg geeetgeate acctcaagtg tgtadacatt 840
gatgagtgtg gcacagaggg agccaactgt ggagctgacc aattctgcgt gaacactgag 900
ggotootatg agtgoogaga etgtgooaag gootgootag gotgoatggg ggoagggooa 960
ggtogotgta agaagtgtag cootggotat cagcaggtgg gotocaagtg totogatgtg 1020
gatgaqtgtg agacagaggt gtgtdeggga gagaacaagc agtgtgaaaa daddgaggdd 1080
ggttateget geatetgige egagggetae aageagaigg aaggeatetg igigaaggag 1140
dagatdddag agtdagdagg dtidtidida gagatgadag aagadgagtt ggiggigdig 1200
dagnagatgt tettitggeat dateatetgt geadtggeda egetggetge taagggegae 1960
ttggtgttda degedatett cattgggget gtggeggeda tgaetggeta etggttgtca 1320
gagogbagtg adogtgtgot ggagggotto atbaagggoa gataatogog godaddaddt 1380
gradgadete etecedaceda egetgedede agagettigg etgedetect getggadadt 1440
 cugnacagnt tiggittattt titgagagtigg ggtaagcacc cetacctigec tiacagagca 1500
goodaggtad odaggdddgg gdagadaagg coddtggggt alaaaagtagd cotgaaggtg 1560
 gataccatga getetteade tggoggggae tggoaggett cacaatgtgt gaatttcaaa 1520
 autototodo taatggtggo tgotagagot tigggooddig ottaggatta ggiggioddo 1680
 arajaggtgg ggdcatcaca gctccctcct gccagctgca tgctgccagt tcctgttctg 1740
 tyttcaccac atccccacac cocattgcca cttatttatt catctcagga aataaagaaa 1300
 <210> 109
 <2115 420
 <..12> PRT
 <213> Homo sapiens
 < 400 + 109
```

Met Ala Pro Trp Pro Pro Lys Gly Leu Val Pro Ala Val Leu Trp Gly 10 1.

Leu Ser Leu Phe Leu Aun Leu Pro Gly Pro Ile Trp Leu Gln Pro Ser 25 20

Pro Pro Pro Gln Ser Ser Pro Pro Pro Gln Pro His Pro Cys His Thi 40 35

Cys Arg Gly Leu Val Asp Ser Phe Asn Lys Gly Leu Glu Arg Thr Ile 55 50

65				Gly	70					7.5					
Ser	ьуз	ıYT	Lys	Asp 85	Ser	Glu	Thr	Arg	Leu 90	Val	Glu	Val	Leu	Glu 95	Gly
Val	Суѕ	Ser	Lys 100	Ser	Asp	Phe	Glu	Cys 105	Hıs	Arg	Leu	Leu	Glu 110	Leu	Ser
Glu	Glu	Leu 115	Val	Glu	Ser	Trp	Trp 120	Phe	His	Lys	Gln	Gln 125	Glu	Ala	Pro
Asp	Leu 130	Phe	Gln	Trp	Leu	Cys 135	Ser	Asp	Ser	Leu	Lys 140	Leu	Суѕ	Сув	Pro
Λla 145	Gly	Thir	Phe	Gly	Pro 150	Ser	Cys	Len	Pro	Cys 155	Pro	Gly	Gly	Thr	Glu 160
Arg	Pro	Cys	Gly	Gly 165	Tyr	Gly	Gln	Суз	Glu 170	Gly	Glu	Gly	Thr	Arg 175	Gly
Gly	Ser	Gly	His	Cys	Asp	Cys	Gln	Ala 185	Gly	Tyr	Gly	Gly	Glu 190	Ala	Суз
Gly	Gln	Cys 195		Leu	Gly	Tyr	Phe 200	Glu	Ala	Glu	Arg	Asn 205	Ala	ser	His
Leu	. Val		s Sei	Ala	Суз	Phe 215	Gly	F10	Суз	Ala	Arg 220) Cys	: Sei	Gly	Pro
Glu 225		ı Sei	r Asr	ı Cys	Leu 230	Gln	Суа	: Lys	Lys	3 Gly 235	Trp	alā	ı Let	1 H18	3 His 240
Let	ı Ly:	з Су:	s Val	L Asp 245	ıle	. Asp	Glu	ı Cys	Gl _y 250	Thi	c Glu	ı Gly	y Ala	a Ası 25!	n Cys 5
			26	0				200)					-	s Arg
Asj	р Су	s Al 27		s Ala	a Cys	s Lev	3 Gl; 28	o A Gae	s Met	t Gl	y Al	a Gl [*] 28	y Pr 5	o Gl	y Arg
	2.9	0				29	5				50				s Leu
As		l As	sp Gl	u Cy	s Glu 31	u Th O	r Gl	u Va	l Cy	s Pr 31	o Gl 5	y Gl	u As	n Ly	s Gln 320
СУ	s Gl	u As	sn Th	ır Gl 32	u Gl; 5	y Gl	у Ту	r Ar	g Cy 33	s Il O	е Су	s Al	a Gl	.u Gl 33	.y Tyr 3€
Lу	s Gl	n Mo	ot Gl 34		y Il	e Cy	s Va	l Ly 34	s Gl 5	u Gl	n Il	e Pi	:0 GI 3!	lu S6 50	er Ala

```
Gly Phe Phe Ser Glu Met Thr Glu Asp Glu Leu Val Val Leu Gln Gln
                            360
Met Phe Phe Gly Ile Ile Ile Cys Ala Leu Ala Thr Leu Ala Ala Lys
                                              380
                         375
    370
Gly Asp Leu Val Phe Thr Ala Ile Phe Ile Gly Ala Val Ala Ala Met
                                          395
                     390
Thr Gly Tyr Trp Leu Ser Glu Arg Ser Asp Arg Val Leu Glu Gly Phe
                                      410
                 405
Ile Lys Gly Arg
             420
<210> 110
<211> 50
<111> DNA
<21:> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
       oligonucleotide probe
 detagetate ageaggtggg etecaagtgt etegatgtgg atgagtgtga
                                                                      50
 <..10> 111
 <2115 23
 <212> DNA
 <::13> Artificial Sequence
 <223 Description of Artificial Sequence: Synthetic
       oligonucleotide probe
 <400 111
                                                                       22
 aftetgegtg aacaetgagg ge
 <J10> 112
 . 211 - 22
 \epsilon \pm 12 + \mathrm{DNA}
 ._13 · Artificial Sequence
 - B120 -
 +223 · Description of Artificial Sequence: Synthetic
        cligonucleotide probe
 2400×112
                                                                       22
  atotigettigt agedetegge ac
```

3210 × 113

```
-211> 1616
<212> DNA
<2135 Home sapiens
<230 €
<221 - modified base
<321. (1461)</pre>
<323, a, t, c or g
tyagadddta dtgaaqaatt ctaaagggad aganadadta tgadtattga taataaaggg 60
cagdaddaty dagdeestgt ggstotgotg ggsactotgg gtgttgoddo tggddagddd 120
eggggeegee etgacogggg ageageteet gggeageetg etgeggeage tgeageteaa 180
ayaggtgood accotggada gggddgadat ggaggagdtg gtdatdddda dddadgtgag 240
gacccagtad gtggmentge tgcagegcag ccanggggae egetdeogeg gaaagaggtt 300
cagocagago ttoogayayy tggooggoag qttoonggog ttggaggoda gcacacacct 360
getggtgtte ggeatggage ageggetgee geecaacage gagetggtge aggeegtget 400
geggetette caggageegg teeccaagge egeqetgeae aggeaeggge ggetgteece 480
gngcagogod ogggeneggg tgadegtega gtgqctgogo gtoogogaeg acggetecaa 540
engeaceted eteategact chaggetggt gtoogtocae gagagegget ggaaggeett 600
 cqacqtgacc gaggccgtga acttetggca gcagetgagd eggcccegge agccgctgct 660
 getacaggig teggigdaga gggageatet gggeeegeig gegioeggeg decacaagei 720
 ggtedgettt gedtegbagg gggegedage egggettggg gagedecage tggagetgea 780
 cannotggad ottgggggadt abggagdtda gggdgadtgt gandotgaag daddaatgad 840
 ogagggcacc ogetgetgec gecaggagat gtacattgae etgeagggga tgaagtggge 900
 ogagaantgg gtgotggage occogggett octggottat gagtgtgtgg gcacetgeeg 960
 quagendeng gaggedetigg eetteaagig geogitticig gegeetegae agitgeatege 1020
 ot iggagant, gantingetige coatqatiqqt dagouthaag gayggaqqoa ggaddagged 1080
 gdaggiggid agnotgooda adatgagggt gdagaagtod agotgtgoot oggatggtgo 1140
 genegitgena aggaggetoc agecatagge gentagitgia geneatogagg gantigaett 1200
 gryrgryttt ongaagtynt ogaggytado aggagagoty y gargaety aactyctyat 1260
 egacamatyc tetgtgetet etagtgages etgaasttge treetetgae aagttacete 1330
 addtaatttt tgottoteag gaatgagaat etttggidae tgjagagee ttgeteagtt 1530
 ttototatto ttattattoa etgoactata ttotaagoac ttacatgtgg agatactgta 1440
 acctgaggge agaaageeda ntgtgteatt gtttadttgt detgteactg gatetggget 1500
 asagtoctoc accaecacto tggaectaag acctggggtt aagtgtgggt tgtgcatccc 1560
 maatocagat aataaaqaot tigtaaaaqoa igaataaaao acattitati otaaaa
 .210: 114
 .211: 366
 -1.12: PFT
 ::213 - Homo sapiens
  Met Gln Pro Leu Tri Leu Cys Trp Ala Leu Trp Val Leu Pro Leu Ala
   1
  Ser Pro Gly Ala Ala Leu Thr Gly Glu Gln Leu Leu Gly Ser Leu Leu
                                    25
  Arg Gln Leu Gln Leu Lys Glu Val Pro Thr Leu Asp Arg Ala Asp Met
                                40
```

Glu Glu ben Val Ile Pro Thr His Val Arg Ala Gln Tyr Val Ala Leu Leu Gln Arg Ser His Gly Asp Arg Scr Arg Gly Lys Arg Phe Ser Gln 7.0 Ser Phe Arg Glu Val Ala Gly Arg Phe Leu Ala Leu Glu Ala Ser Thr His Leu Leu Val Phe Gly Mer Glu Gln Arg Leu Pro Pro Asn Ser Glu 105 100 Leu Val Gln Ala Val Leu Arg Leu Phe Gln Glu Pro Val Pro Lys Ala 120 Ala Leu His Arg His Gly Arg Leu Ser Pro Arg Ser Ala Arg Ala Arg 135 130 Val Thr Val Glu Trp Leu Aig Val Arg Asp Asp Gly Ser Asn Arg Thr 150 Ser Leu Ile Asp Ser Arg Leu Val Ser Val His Glu Ser Gly Trp Lys 170 165 Ala Phe Asp Val Thr Glu Ala Val Asn Phe Trp Gln Gln Leu Ser Arg 185 Fro Arg Gln Pro Leu Leu Leu Gln Val Ser Val Gln Arg Glu His Leu 200 Gly Pro Leu Ala Ser Gly Ala His Lys Leu Val Arg Phe Ala Ser Gln 215 210 Gly Ala Pro Ala Gly Leu Gly Glu Pro Gln Leu Glu Leu His Thr Leu 230 Asp Leu Gly Asp Tyr Gly Ala Gln Gly Asp Cys Asp Pro Glu Ala Pro Met Thr Glu Gly Thr Arg dys Cys Arg Gln Glu Met Tyr Ile Asp Leu 265 Gln Gly Met Lys Trp Ala Glu Asr Trp Val Leu Glu Pro Pro Gly Phe 275 Leu Ala Tyr Glu Cys Val Gly Thr Cys Arg Gln Pro Pro Glu Ala Leu 295 Ala Phe Lys Trp Pro Phe Leu Gly Pro Arg Gln Cys Ile Ala Ser Glu 310 Thr Asp Ser Leu Pro Met Ile Val Ser Ile Lys Glu Gly Gly Arg Thr 330 325

```
Arg Pro Gln Val Val Ser Leu Pro Asn Met Arg Val Gln Lys Cys Ser
                                 345
Cys Ala Ser Asp Gly Ala Leu Val Pro Arg Arg Leu Gln Pro
                             360
.210> 115
.211> 21
allier DNA
8213> Artificial Sequence
*.223> Description of Artificial Sequence: Synthetic
£220⊳
      oligonucleotide probe
< 400 > 115
                                                                     21
aggaetgeea taaettgeet g
.210> 116
...11> 22
-1112> DNA
<213> Artificial Sequence
< 0.111.0 >
*323> Description of Artificial Sequence: Synthetic
       cligonucleotide probe
 \sim 400 > 116
                                                                     22
 ataggagtty aagcageget ge
 . 110> 117
 +111> 45
 .112> DNA
 .213> Artificial Sequence
 +223> Description of Artificial Sequence: Synthetic
       oligonucleotide probe
                                                                     45
 tgtgtgqaca tagacgagtg cegetacege tactgccage acege
  :210> 118
  -:211:- 1857
  32125 DNA
  213: Homo sapiens
  <400> 118
  gratgitade aggagiedti eggeggeigt igigteagig geeigalege gaiggggada 60
  waggogoaag togagaggaa actgttgtgo otottoatat tggogatoot gttgtgotoo 120
  stggdattgg gcagtgttac agtgdactct totgaacctg aagtcagaat tootgagaat 180
```

```
aateetqtya agtigteetq tqeetaeteg ggettitett eteeneqtyt ggagtggaaq 240
tttgandaag gagadachad dagadtogtt tghtataata adaagatdan agottodtat 300
gaggadoggg tgadottott godaabtggt atdadottda agtoogtgad abgggaagad 360
actgggasat asacttgtat ggtototgag qaaqqoqgoa acagetatgg ggaggtcaag 420
greasgeres tegrigerigt georgeated asgectadag trascatede efectoriged 480
accepting a accepting detection accepting accepting accepting accepting accepting accepting acceptance accept
tacacetggt teaaagatgg gatagtgatg cetaegaate ceaaaageae eegtgeette 600
agraantett estatgteet gaateecaca acaggagage tggtetttga teceetgtea 600
geotetgata etggagaata cagetgtgag geaeggaatg ggtatgggae acceatgact 720
toaaatgotg tgogoatgga agotgtggag oggaatgtgg gggtoatogt ggoagoogto 780
cttgtaacce tgattetect gggaatettg gtttttggea tetggtttge etatageega 840
ggccactttg acagaacaaa gaaagggact tegagtaaga aggtgattta cagccagect 900
 agtgcccgaa gtgaaggaga attcaaacag acctegtcat teetggtgtg ageetggteg 960
 geteacegee tateatetge atttgeetta eteaggtget aceggaetet ggeecetgat 1020
 gretqtagtt toacaggatg cettattigt ettetacade ecacagggee ceetactict 1080
 toggatgist tittaataat gioagotatg teedcatee teeticatge estecetese 1140
 tttoctacca etgetgagtg geetggaact tgtttaaaqt gtttatteee eatttetttg 1200
 agggatcagg aaggaateet gggtatgeea ttgaetteee ttetaagtag acageaaaaa 1260
 tggcgggggt cgcaggaatc tgcactcaac tgcccacctg getggcaggg atctttgaat 1320
 aggtatettg agettggtte tgggetettt eettgtgtae tgaegaecag ggeeagetgt 1380
 totagagogg gaattagagg ctagagoggo tgaaatggtt gtttggtgat gacactgggg 1440
 trottecate tetgaggeee actetettet gtetteeeat gggaagtgee actgggatee 1500
 ctotgecetg tectectgaa tacaagetga etgaeattga etgtgtetgt ggaaaatggg 1550
 agetettytt gtggagagea tagtaaattt teagagaaet tgaageeaaa aggatttaaa 1620
 acceptigete taaagaaaag aaaacteggag getgggegea gtggeteaeg eetgtaatee 1680
 cagaggetga qgeaggegga teacetgagg tegggagtte gggateagee tgaccaacat 1740
 ggagaaacco tactggaaat abaaagttag ccaggdatgg tggtgcatge etgtagteec 1800
  adottoctoag qaqoottggca abaaqagcaa aactocagot caaaaaaaaa aaaaaaa
  all0: 119
  <211> 299
  4..125 PRT
  <213> Homo sapiens
  <400> 119
  Met Gly Thr Lys Ala Gln Val Glu Arg Lys Leu Leu Cys Leu Phe Ile
  Leu Ala Ile Leu Leu Cys Ser Leu Ala Leu Gly Ser Val Thr Val His
                                                                25
                          20
   Ser Ser Slu Pro Glu Val Arg Ile Pro Glu Asn Asn Pro Val Lys Leu
                                                        40
                    35
   Ser Cys Ala Tyr Ser Gly Phe Ser Ser Pro Arg Val Glu Trp Lys Phe
                                                 55
   Asp Gln Gly Asp Thr Thr Arg Leu Val Cys Tyr Asn Asn Lys Ile Thr
```

85

Ala Ser Tyr Glu Asp Arg Val Thr Phe Leu Pro Thr Gly Ile Thr Phe

9.0

Lys Ser Val Thr Arg Glu Asp Thr Gly Thr Tyr Thr Cys Met Val Ser 105 100 Glu Glu Gly Gly Asn Ser Tyr Gly Glu Val Lys Val Lys Leu Ile Val 120 Len Val Pro Pro Ser Lys Pro Thr Val Asn Ile Pro Ser Ser Ala Thr 135 130 Ile Gly Asn Arg Ala Val Leu Thr Cys Ser Glu Gln Asp Gly Ser Pro Pro Ser Glu Tyr Thr Trp Phe Lys Asp Gly Ile Val Met Pro Thr Asn 170 Pro Lys Ser Thr Arg Ala Phe Ser Asn Ser Ser Tyr Val Leu Asn Pro 185 Thr Thr Gly Glu Leu Val Phe Asp Pro Leu Ser Ala Ser Asp Thr Gly 200 Glu Tyr Ser Cys Glu Ala Arg Asn Gly Tyr Gly Thr Pro Met Thr Ser 215 210 Asn Ala Val Arg Met Glu Ala Val Glu Arg Asn Val Gly Val Ile Val 235 21.5 Ala Ala Val Leu Val Thr Leu Ile Leu Leu Gly Ile Leu Val Phe Gly 245 Ile Trp Phe Ala Tyr Ser Arg Gly His Phe Asp Arg Thr Lys Lys Gly 265 Thr Ser Ser Lys Lys Val Ile Tyr Ser Gln Pro Ser Ala Arg Ser Glu 280 Gly Glu Phe Lys Gln Thr Ser Ser Phe Leu Val 295 290 <210> 120 <111: 24 < .12: DNA <:113. Artificial Sequence</pre> +325 - Description of Artificial Sequence: Synthetic oligonucleotide probe .1400 - 120 togoggagot gtgttetgtt todo

<210 > 121 <211 > 50

```
<212 - DNA
<2135 Artificial Sequence
<2.20
<\...) - Description of Artificial Sequence: Synthetic</pre>
      oligonucleotide probe
<400 > 121
                                                                      50
tgatogogat ggggacaaag gogcaagoto gagaggaaac tgttgtgoot
<110> 12.3
<211> 20
<210 > DNA
<113 > Artificial Sequence
<210≥
Description of Artificial Sequence: Synthetic
       oligonucleotide probe
<400> 122
                                                                      20
 aracetggtt caaagatggg
 <210> 123
 <.111> 2.4
 <210> DNA
 ·113> Artificial Sequence
 CLIPS Description of Artificial Sequence: Synthetic
       oligonucleotide probe
 .400> 1.3
                                                                       24
 taggaagagt tgotgaaggo acgg
 <_110 > 114
 2011× 20
 -212> DNA
 <:113> Artificial Sequence
 2000 ×
  -223: Description of Artificial Sequence: Synthetic
        oligonucleotide probe
  4.00\times124
                                                                        20
  ttgccttact caggtgctac
  -210 - 125
  . 211> 20
  .212> DNA
  <113> Artificial Sequence
  -: _ .. 0 :-
  <223> Description of Artificial Sequence: Synthetic
```

oligonucleotide probe

```
<400> 125
                                                                   20
actragoagt ggtaggaaag
<2105 126
<211: 1210
<212> DNA
<2213> Homo sapiens
<400 > 126
cagegegtyg deggegede tgtggggada geatgagegg eggttggatg gegeaggttg \epsilon_0
gagogtggog aacagggget etgggeetgg egetgetget getgetegge eteggaetag 120
geotogagge egeogegage degettteda edeogaeete tgeodaggee geaggeoeda 130
getcaggine gigeccaech accaagited aqigecquae cagiggetta igegigeded 240
tracetgreg etgegadagg qaettggaet qeagegatgg bagegatgag gaggagtgda 300
guattgages atgtacecag aaagggsaat geocacegce ecctygects costgeeset 360
geaceggegt cagtgactge tetgggggaa etgacaagaa aetgegeaac tgeageegee 420
tggootgoot agoaggogag otoogttgoa ogotgagoga tgaotgoatt ocaetoacgt 480
ggogotgoga oggodadeda gaetgtodog actodagoga ogagotoggo tgtggaadda 540
atgagateet eeeggaaggg gatgecacaa eeatggggee eeetgtgaee etggagagtg 600
tracetetet caggaatgee acaaceatgg ggeeeeetgt gaeeetggag agtgteeeet 660
ctgtcgggaa tgccacatcc tcctctgccg gagaccagtc tggaagccca actgcctatg 720
gggttattgc agetgetgeg gtgeteagtg caageetggt caeegeeace etecteettt 780
tgtoctgget ecgagoccag gagogocted godcaetggg gttactggtg godatgaagg 840
agtocotgot gotgtoagaa cagaagadet ogotgeeetg aggadaagda ottgodadda 900
coglidacica goodligggog tagooggada ggaggagage agligatigogg aligggladdd 960
gggcacacca geoctcagag acctgagtte ttetggccae gtggaaccte gaaccegage 1920
tootgoagaa giggoootgg agatigaggg toociggada oicdoixigg agatoogggg 1080
 agotaggatg gggaadotgo cacagocaga actgaggggo tggccccagg cagotoccag 1140
 ggggtagaac ggccctgtgc ttaagacact coctgetgcc ccgtctgagg gtggcgatta 1200
 aagttgettd
 <210> 127
 <211> 282
 <212> PRT
 <213> Homo sapiens
 <400> 127
 Met Ser Gly Gly Trp Met Ala Gln Val Gly Ala Trp Arg Thr Gly Ala
                                      1.0
 Leu Gly Leu Ala Leu Leu Leu Leu Leu Gly Leu Gly Leu Gly Leu Glu
              20
 Ala Ala Ser Pro Leu Ser Thr Pro Thr Ser Ala Gln Ala Ala Gly
                               4:)
          35
 Pro Ser Ser Gly Ser Cys Pro Pro Thr Lys Phe Gln Cys Arg Thr Ser
                                               60
 Gly Leu Cys Val Pro Leu Thr Trp Arg Cys Asp Arg Asp Leu Asp Cys
                       70
  65
```

7.4

Ser Asp Gly Ser Asp Glu Glu Glu Cys Arg Ile Glu Pro Cys Thr Gln Lys Gly Gln Cys Pro Pro Pro Pro Gly Leu Fio Cys Pio Cys Thr Gly 100 Val Ser Asp Cys Ser Gly Gly Thr Asp Lys Leu Arg Asn Cys Ser 120 Arg Leu Ala Cys Leu Ala Gly Glu Leu Arg Cys Thr Leu Ser Asp Asp 135 Cys Ile Pro Leu Thr Trp Arg Cys Asp Gly His Pro Asp Cys Pro Asp 150 Ser Ser Asp Glu Leu Gly Cys Gly Thr Asn Glu Ile Leu Pro Glu Gly 170 165 Asp Ala Thr Thr Met Gly Pro Pro Val Thr Leu Glu Ser Val Thr Ser Leu Arg Asn Ala Thr Thr Met Gly Pro Pro Val Thr Leu Glu Ser Val 200 Pro Ser Val Gly Asn Ala Thr Ser Ser Ser Ala Gly Asp Gln Ser Gly 215 Ser Pro Thr Ala Tyr Gly Val Ile Ala Ala Ala Ala Val Leu Sor Ala 235 230 Ser Leu Val Thr Ala Thr Leu Leu Leu Leu Ser Trp Leu Arg Ala Gln 245Glu Arg Leu Arg Pro Leu Gly Leu Leu Val Ala Met Lys Glu Ser Leu 265 260 Leu Leu Ser Glu Gln Lys Thr Ser Leu Pro 280 275 <210> 128 <211> 24 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: Synthetic

<210> 129

<400> 128

oligonucleotide probe

aagttccagt gccgcaccag tggc

```
<2.111 + 24
<2112> DNA
<!:13> Artificial Sequence
<110.00
<.:23> Description of Artificial Sequence: Synthetic
      oligonucleatide probe
<400: 129
                                                                   24
tiggitionad ageogugoto glog
<210> 130
<111> 50
<212> DNA
<313 Artificial Sequence</pre>
<120 +
<223 > Description of Artificial Sequence: Synthetic
      oligonucleatide probe
<400> 130
gaggaggagt geaggattga geeatgtace cagaaaggge aatgeddade
                                                                    50
< 210> 131
<211> 1843
<1.12> DNA
<!13> Home sapiers
+..20>
 ...11> modified_base
 .222> (1837)
 .2235 a, t, ∈ ∞ 9
 4400> 131
 oppadgegic enginteget egetegegea geggeggeag dagaggtege geacagatge 60
 agattagaet ggegggggg ggaggeggag gagggaagga agetgeatge atgagaeeea 120
 hagactinttg haagiitgijat goodtotgtg gatgaaagat gtatoatgga atgaaccega 180
 doaatgdaga tygatttota gagdagdagd agdagdagda gdaacotdag toocddaga 240
 dantonings hypgridety tygithdago tygogotyty ottogycoot goadagstda 300
 ogygogugtt ogatgadott daagtgtgtg otgaddoogg dattooogag aatggottda 360
 ugadodddag dygagggtt teettigaag getetgtage eegattteae tgecaagaeg 400
 watuca-got gaagigogot adaaagagad totgttttgaa goathttaat ggaaddotag 480
 uctygatodo auguquataat todatotgly tyonaagaaga tigooqtato ootdaaatog 540
 aagatg tga gattoataan aagadatata gadatggaga gaagdtaatd atdadttgtd 600
 atgaagdatt caagatoogg tacooogaco tacacaatat ggtttcatta tgtogogatg 660
 Atgraangig gaataatoig codatoigic aaggotgoot gagacotota godictiota 720
 abggetatgt asacstetet gagetecaga eeteetteee ggtggggaet gtgateteet 780
 atogotyett tooogyatti aaadtigatg ggtotgegia tottgagtge tiadaaaadd 840
 ttatotygto gtodagocca oddogytgod ttgototyga agoccaagto tytodactad 900
 ntocastiggt gagtoacgga gatttegtet gecadeegeg geettigtgag egetacaabe 960
 acggaactgt ggtggagttt tactgcgatc ctggctacag cctcaccagc qactacaagt 1020
 acatdacetg edagtatgga gagtggttte ettettatea agtetaetge atcaaateag 1080
 agcaaangtg goodagcace catgagadee teetgadeae gtggaagatt gtggegttea 1140
```

```
eggnäändag tgtgetgetg gtgetgetge tegteateet ggmnaggatg tindagåena 1200
agtthaaqqn nhaqtttoon occagggggd otdoonggag ttodagdagt gaeddigaet 1260
ttytggtqgt agacqqngtg cocgteatgc teeegtesta tgacgaaget gtgagtgqcg 1320
gettqagtqe ettaqqeece gygtacatqq eetetgtggg eeaqqqetqe eeettacecg 1380
tygacgacca gagoconoca goataccoog gotcagggga bacggacaca ggcccagggg 1440
agtoagaaan otgtgadago gtotdaggot ottotgagot gotddaaagt otgtattdad 1500
ctdddaggty ddaagagagd accdadddtg dttdggadaa dddtgadata attgddagda 1560
eggeagagga ggtggeated accageedag geatecatea tgeodaetgg gtgttgtted 1620
taagaaactg attgattaaa aaattteeca aagtgteetg aagtgtetet teaaatacat 1690
gitgatetgt ggagttgatt cettteette tettggtttt agacaaatgt aaacaaaget 1740
ctgatcctta aaattgctat gctgatagag tggtgagggc tggaagcttg atcaagtcct 1800
gtttcttctt gacacagact gattaaaaat taaaagnaaa aaa
<210> 132
<211> 490
<2125 PET
<213> Homo sapiens
 Met Tyr His Gly Met Asn Pro Ser Asn Gly Asp Gly Phe Leu Glu Gln
  1
 Gln Gln Gln Gln Gln Pro Gln Ser Pro Gln Arg Leu Leu Ala Val
                                  25
              2.0
 Ile Leu Trp Phe Gln Leu Ala Leu Cys Phe Gly Pro Ala Gln Leu Thr
 Gly Gly Phe Asp Asp Leu Gln Val Cys Ala Asp Pro Gly Ile Pro Glu
 Asn Gly Phe Arg Thr Pro Ser Gly Gly Val Phe Phe Glu Gly Ser Val
                       70
 Ala Arg Phe His Cys Gln Asp Gly Phe Lys Leu Lys Gly Ala Thr Lys
                   85
  Arg Leu Cys Leu Lys His Phe Asn Gly Thr Leu Gly Trp Ile Pro Ser
                                  105
  Asp Asn Ser Ile Cys Val Gln Glu Asp Cys Arg Ile Pro Gln Ile Glu
                              120
  Asp Ala Glu Ile His Asn Lys Thr Tyr Arg His Gly Glu Lys Leu Ile
                           135
  Ile Thr Cys His Glu Gly Phe Lys Ile Arg Tyr Fro Asp Leu His Asn
                       150
  Met Val Ser Leu Cys Arg Asp Asp Gly Thr Trp Asn Asn Leu Pro Ile
                                       170
                   165
   Cys Gln Gly Cys Leu Arg Pro Leu Ala Ser Ser Asn Gly Tyr Val Asn
```

18	0		185			190
Ile Ser Glu Le	eu Gln Thr	Ser Ph	ne Pro 1	Val Gly	Thr Val	lle Ser Tyr
Arg Cys Phe Pr		215				
Leu Gln Asn Le	231	3				
Glu Ala Gln V	245					
	€0		200			
Glu Phe Tyr C	ys Asp Pr	o Gly T	Tyr Ser 280	Leu Thr	Ser Asp 285	Tyr Lys Tyr
Ile Thr Cys G	Sln Tyr Gl	y Glu 5 295	Trp Phe	Pro Ser	Tyr Gln 300	Val Tyr Cys
Ile Lys Ser (3 1	.0		-		
Thr Trp Lys	325			330		
	340		J 1.	,		e Lys Ala His 350
355			300			p Pro Asp Phe 5
370		3/5				r Asp Glu Ala
Val Ser Gly 385	Gly Leu S	er Ala 90	Leu Gl	y Pro Gl 39	y Tyr Me 5	t Ala Ser Val 400
Gl; Gln Gly	Cys Pro I	eu Fro	Val As	p Asp Gl 410	n Ser Pr	o Pro Ala Tyr 415
Pro Gly Ser	Gly Asp (Thr Asp	Thr Gl 42	y Pro Gl 15	ly Glu S€	er Glu Thr Cys 430
Asp Ser Val 435	Ser Gly	Ser Ser	Glu Le 440	eu Leu G	ln Ser Le	eu Tyr Ser Pro 45
Pro Arg Cys 450	Gln Glu	Ser Thr 455	r His Pi	ro Ala S	er Asp A 460	sn Pro Asp Ile

```
Il. Ala Ser Thr Ala Glu Glu Val Ala Ser Thr Ser Pro Gly Ile His
451
                    470
                                         475
Hi: Ala His Trp Val Leu Phe Leu Arg Asn
                435
<210> 133
<2115 DNA
<2135 Artificial Sequence</pre>
<0.00>
<22.3> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<4005 113
                                                                    23
aidtoctate getgetttee egg
<.3105 134
<211> 23
<212> DNA
<213> Artificial Sequence
40000×
&2230 Description of Artificial Sequence: Synthetic
      oligonucleotide probe
34000 174
                                                                    23
ageraggate geagtasase ted
100 135
421114 50
SUBLE DNA
<.lr> Artificial Sequence
<1100
<213> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400 - 135
                                                                   50
atiliaaanti gatgggtotg ogtatottga gtgottacaa aacottatot
<210 · 136
3211 × 1815
and his DNA
<dl> Homo sapiens
<400 + 136
obcaciquate ogotocycgo estececco geotocogtg eggteegteg gtggeetaga 60
gatgetgetg cogeggttge agttgtegeg caegectetg coegecagee egetecaceg 120
coqtagogos egagtgtegg ggggegeate egagteggge catgaggeeg ggaacegege 180
tacaqqccqt qctqctqqcc qtqctqctqq tqqqgctgcg ggccgcgacg ggtcgcctgc 240
tgagtgooto ggatttggad otdagaggag ggdagddagt dtgoogggga gggadadaga 300
```

ggnottgtta taaagtoatt taottooatg ataottotog aagaotgaac tittgaggaag 360 ccaaagaago otgcaggagg qatggaggoo agotagtcag catogaqtot gaagatgaad 420 agaaactgat agaaaagtte attgaaaace tettgecate tgatgqtgae ttetggattg 480 ggetnaggag gegtgaggag aaacaaagea atagnacage elgecaggae ettlatgett 540 ggactgatgg cagcatatca caatttagga actggtatgt ggatgagccg teetgeggca 600 gogaggtetg egtggteatg taccateage categgeace egetggeate ggaggedet 660 acatgitcca giggaatgat gaccggtgca acatgaagaa caattteatt igcaaatatt 720 ctgatgagaa accagcagtt ccttctagag aagctgaagg tgaggaaaca gagctgacaa 780 cacctytact tecagaagaa acacaggaag aagatgccaa aaaaacattt aaagaaagta 840 gagaagetge ettgaatetg geetacatee taateeecag catteceett eteeteetee 900 ttgtggtcac cacagttgta tgttgggttt ggatctgtag aaaaagaaaa cgggagcagc 960 cagaccetag cacaaagaag caacacacca tetggeeete teeteaccag ggaaacagee 1020 cggacctaga ggtctagaat gtcataagaa aacaaagcga agctgactta gctgagaccc 1080 ggodagacot gaagaatatt toattoogag tgtqttoggg agaagecact occgatgaca 1140 tgtettgtga etatgacaac atggetgtga acceatoaga aagtgggett gtgactetgg 1200 tgagogtgga gagtggattt gtgaccaatg acatttatga gttetecoca gaccaaatgg 1260 ggaggagtaa ggagtetgga tgggtggaaa atgaaatata tggttattag gacatataaa 1320 aaactgaaac tgacaacaat ggaaaagaaa tgataagcaa aatcetetta ttttetataa 1380 ggaaaataca cagaaqgtot atgaacaago ttagatcagg tootgtggat gagcatgtgg 1440 tececacgae etectgitgg acceecacgt titiggetgia tectitatec cagecagtea 1500 tocagotoga cettatgaga aggtacettg eccaggtetg geacatagta gagteteaat 1560 aaatgtcact tggttggttg tatetaactt ttaagggaca gagetttace tggcagtgat 1620 aaagatggge tgtggagett ggaaaaccae etetgttte ettgetetat acagcagcae 1680 atattatcat acagacagaa aatocagaat ottttcaaag cocacatatg gtagcacagg 1740 ttggcctgtg catcggcaat teteatatet gtttttttea aagaataaaa tcaaataaag 1800 agcaggaaaa aaaaa <110> 137 <211> 382 <112 - PRT

<313> Homo sapiens

Met Arg Pro Gly Thr Ala Leu Gln Ala Val Leu Leu Ala Val Leu Leu

Val Gly Leu Arg Ala Ala Thr Gly Arg Leu Leu Ser Ala Ser Asp Leu 20

Asp Leu Arg Gly Gly Gln Pro Val Cys Arg Gly Gly Thr Gln Arg Pro

Cys Tyr Lys Val Ile Tyr Phe His Asp Thr Ser Arg Arg Leu Asn Phe

Giu Glu Ala Lys Glu Ala Cys Arg Arg Asp Gly Gly Gln Leu Val Ser 70

Ile Glu Ser Glu Asp Glu Gln Lys Leu Ile Glu Lys Phe Ile Glu Asn

Leu Leu Pro Ser Asp Gly Asp Phe Trp Ile Gly Leu Arg Arg Arg Glu 100

Glu Lys Gln Ser Asn Ser Thr Ala Cys Gln Asp Leu Tyr Ala Trp Thr 120
Asp Gly Ser Ile Ser Gln Phe Arg Asn Trp Tyr Val Asp Glu Pro Ser 130 130
Cys Gly Ser Glu Val Cys Val Val Met Tyr His Gln Fro Ser Ala Pro 150 150
Ala Gly Ile Gly Gly Pro Tyr Met Phe Gln Trp Asn Asp Asp Arg Cys 175 165
Asn Met Lys Asn Asn Phe Ile Cys Lys Tyr Ser Asp Glu Lys Pro Ala 180
Val Pro Ser Arg Glu Ala Glu Gly Glu Glu Thr Glu Leu Thr Thr Pro 200 205
Val Leu Pro Glu Glu Thr Gln Glu Glu Asp Ala Lys Lys Thr Phe Lys
Glu Ser Arg Glu Ala Ala Leu Asn Leu Ala Tyr Ile Leu Ile Pro Ser 240 230
Ile Fro Leu Leu Leu Leu Val Val Thr Thr Val Val Cys IIF Val 255 245
Trp Ile Cys Arg Lys Arg Lys Arg Glu Gln Pro Asp Fro Ser Thi Lys 260 265
Lys Gln His Thr Ile Trp Pro Ser Pro His Gln Gly Asn Ser Pro Asp 285 275
Leu Glu Val Tyr Asn Val Ile Arg Lys Gln Ser Glu Ala Asp Leu Ala 295
Glu Thr Arg Pro Asp Leu Lys Asn Ile Ser Phe Arg Val Cys Ser Gly 320 310
305 Glu Ala Thr Pro Asp Asp Met Ser Cys Asp Tyr Asp Asn Met Ala Val 335 325
Asn Pro Ser Glu Ser Gly Phe Val Thr Leu Val Ser Val Glu Ser Gly 350
Phe Val Thr Asn Asp Ile Tyr Glu Phe Ser Pic Asp Gln Met Gly Arg 365
Ser Lys Glu Ser Gly Trp Val Glu Asn Glu Ile Tyr Gly Tyr 370 375

<210> 138

```
211×50
<212> DNA
<213> Artificial Sequence
<2..3> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
                                                                     50
gricattgaa aacetetige catetqatgg tgaettetgg attgggetea
<210 > 139
<211> 24
<212 > DNA
<_13> Artificial Sequence
 <223> Description of Artificial Sequence: Synthetic
 <...0>
       cligonucleotide probe
                                                                      24
 <400> 139
 aagccaaaga agcctgcagg aggg
 <210> 140
 <211> 24
 adids DNA
 ...13: Artificial Sequence
 -1200
  v.33 - Description of Artificial Sequence: Synthetic
        cligonucleotide probe
                                                                       24
  2400 > 140
  caguecaage ataaaggtee tgge
  . 110> 141
  -_11> 1514
  . 1125 DNA
  .1135 Homo sapiens
   ##:grotocc toacqueeqq gaggcacage ggtocctget tgctgaagyg ctggatgtac 60
  \mathcal{A} \, \, 0 \, 0 \, \times \, 144 \, 1
  gelatinigoag gttocigogg acttigggggo godogotgag codoggegod ogcagaagad 120
  tigigittige etectoleage eteaaccogg agggeagega gggeetacca ecatqateae 180
   tagugugugute ageat geget tgtggaedee agtgggegte etgaeetege tggegtaetg 240
   egtgdandag oggdgggtgg oddtggdoga gdtgdaggag gddgatggdd agtgtddggt 300
   ngadogdago dtgotgaagt tgaaaatggt goaggtogtg tttogadaog gggotoggag 360
   toototoaag degetoeege tygaggagea gytagagtyg aacceedage tattagagyt 420
   godacoocaa acteagtitg attacacagt caccaateta getggtggte egaaaceata 480
   rtetecttac gaetetcaat accatgagac caccetgaag gggggcatgt ttgetgggca 540
   gotgaccaag gtgggcatge agcaaatgtt tgccttggga gagagactga ggaagaacta 600
   tgtggaagad attoccttto titcaccaad ottcaaccaa caggaggtot ttartogtto 660
   cactaacatt tittoggaato tygagtocac dogttyttig otggotyggo tittocagty 720
```

toagaaagaa ggadocatda toatodadan tgatqaaqos qaftdaqaaq tottgtaton 780 caactancaa agetgetgga geetgaggea gaqaaccaqa qqeeggagge aqactgeete 840 tttadagdia ggaatoteag aqqatttgaa aaaqqtgaaq qadaggatgg gdattgadag 900 tagtgatasa gtggaettet teatenteet ggacaacgtg getgeegage aggeaeacaa 960 cotoscaago tgocccatgo tgaagagatt tgcacqqatg atcgaacaga gagetgtgga 1020 cacateetty tacatactyc ccaaggaaga cagggaaagt ettcagatgg cagtaggeec 1080 attentedan atdetagaga geaacetgit gaaagenatg gaetetgeea etgeeceega 1140 caagatcaga aagetgtate tetatgegge teatgatgtg acetteatae egetettaat 1200 gaccetgggg attittgace acaaatggee acceptitget gitgacetga ceatggaact 1260 ttaccagcac ctggaatcta aqqagtggtt tgtgcagctc tattaccacg ggaaggagca 1320 ggtgccgaga ggttgccctg atgggctctg cccgctggac atgttcttga atgccatgtc 1380 agtttatacc ttaagcccag aaaaatacca tgcactetgc tetcaaactc aggtgatgga 1440 agttggaaat gaagagtaac tgatttataa aagcaggatg tgttgatttt aaaataaagt 1500 gcctttatac aatg <210> 142 <211> 418 <212> PET

<213> Homo sapiens

Met Ile Thr Gly Val Phe Ser Met Arg Leu Trp Thr Pro Val Gly Val 1

Leu Thr Ser Leu Ala Tyr Cys Leu His Gln Arg Arg Val Ala Leu Ala 25 2.0

Glu Leu Gln Glu Ala Asp Gly Gln Cys Pro Val Asp Arg Ser Leu Leu

Lys Leu Lys Met Val Gln Val Val Phe Arg His Gly Ala Arg Ser Pro 5,5

Leu Lys Pro Leu Pro Leu Glu Glu Gln Val Glu Trp Asn Pro Gln Leu 70

Leu Glu Val Pro Pro Gln Thr Gln Fhe Asp Tyr Thr Val Thr Asn Leu

Ala Gly Gly Pro Lys Pro Tyr Ser Pro Tyr Asp Ser Gln Tyr His Glu 105

Thr Thr Leu Lys Gly Gly Met Phe Ala Gly Gln Leu Thr Lys Val Gly 120 115

Met Gln Gln Met Phe Ala Leu Gly Glu Arg Leu Arg Lys Asn Tyr Val 135 130

Glu Asp Ile Pro Fhe Leu Ser Pro Thr Fhe Asn Pro Gln Glu Val Phe 150

Ile Arg Ser Thr Asn Ile Phe Arg Asn Leu Glu Ser Thr Arg Cys Leu 170 165

Leu Ala Gly Leu Phe Gln Cys Gln Lys Glu Gly Pro 11e 11e 11e His 180 185 190

84

Thr Asp Glu Ala Asp Ser Glu Val Leu Tyr Pro Asn Tyr Gln Ser Cys 195 200 205

Trp Ser Leu Arg Gln Arg Thr Arg Gly Arg Arg Gln Thr Ala Ser Leu 210 215 220

Gln Pro Gly Ile Ser Glu Asp Leu Lys Lys Val Lys Asp Arg Met Gly 225 230 230

Ile Asp Ser Ser Asp Lys Val Asp Phe Phe Ile Leu Leu Asp Asn Val

Ala Ala Glu Gln Ala His Asn Leu Pro Ser Cys Pro Met Leu Lys Arg 260 265 270

Phe Ala Arg Met Ile Glu Gln Arg Ala Val Asp Thr Ser Leu Tyr Ile 275 280 285

Leu Pro Lys Glu Asp Arg Glu Ser Leu Gln Met Ala Val Gly Pro Fhe

Leu His Ile Leu Glu Ser Asn Leu Leu Lys Ala Met Asp Ser Ala Thr 305 310 310

Ala Pro Asp Lys Ile Arg Lys Leu Tyr Leu Tyr Ala Ala His Asp Val

Thr Phe Ile Pro Leu Leu Met Thr Leu Gly Ile Phe Asp His Lys Trp 340 345 350

Pro Pro Pne Ala Val Asp Leu Thr Met Glu Leu Tyr Gln His Leu Glu 355 360 365

Ser Lys Glu Trp Phe Val Gln Leu Tyr Tyr His Gly Lys Glu Gln Val 370 375

Pro Arg Gly Cys Pro Asp Gly Leu Cys Pro Leu Asp Met Phe Leu Asn 385 390 395

Ala Met Ser Val Tyr Thr Leu Ser Pro Glu Lys Tyr His Ala Leu Cys 405

<210> 143

<211> 24

<212> DNA

<213> Artificial Sequence

```
+220 h
<223. Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<4\,(\odot) \sim 14\,\mathrm{J}
                                                                       24
ccaactacca aagstgctgg agec
<210 × 144
<211> 24
Rd12s DNA
<213 > Artificial Sequence
<2006
 .2.3 / Description of Artificial Sequence: Synthetic
       oligonucleotide probe
<400\times\ 144
                                                                        24
gdagdtotat taddadggga agga
. 11C - 145
.211 ~ 24
-312 - DNA
1313 Artificial Sequence
- 2.10 ·
+2.23\times Description of Artificial Sequence: Synthetic
       oligonucleotide probe
 .400 - 145
                                                                         24
 recttodegt ggtaatagag etge
 ×216× 146
 -111-45
 -1.11 - DNA
 Ll: Artificial Sequence
 3 22th 8
 + 12.78 Description of Artificial Sequence: Synthetic
        cligonucleotide probe
 -400 × 146
                                                                         45
 ggragado cagaggoogy aggagaetge etetttacag ccagg
 ...1.> 147
 -:_11> 1586
 HALLS INA
  <all::= Homo sapiens</pre>
  etentettaa eataettigea getaaaaeta aatattgetg ettiggggade teettetage 60
  :400> 147
  onthagainte ageteateae entracetge entrgeteatg generalizatat tercentique 120
  cottgecatt tgnaceagae etgqatteet agegteteea tetggagtge ggetggtggg 180
```

```
qqqcctrcac cyntytyaag gycygytyya yytyyaacay aaagyccayt yyyycachyt 74\%
guquqatgac ggctgggaca ttaaggacgt ggctgtgttg tgccgqgagc tgggctgtgg 300
agetgecage ggaaccecta gtggtatttt gtatgageca ceagcagaaa aagageaaaa 360
ggiocidate caatcagica gittgcacagg aacagaagat acattggetc agigigagca 420
agaajaagtu tatgattgtt cacatgatga agatgotggg goatogtgtg agaacccaya 480
gagetettte teeccagtee eagagggtgt caggetgget gaeggeeetg ggeattgeaa 540
gggacgegtg gaagtgaage accagaacea gtggtatace gtgtgccaga caggetggag 600
ceteegggee geaaaggtgg tgtgeeggea getgggatgt gggagggetg taetgaetea 660
aaaacgotgo aacaagcatg octatggoog aaaacccatc tggotgagoo agatgtoatg 720
ctcaggacga gaagcaaccc ttcaggattg cccttctggg ccttggggga agaacacctg 780
caaccatgat gaagacacgt gggtcgaatg tgaagateee tttgaettga gaetagtagg 840
aggagacaac etetgetetg ggegaetgga ggtgetgeac aagggegtat ggggetetgt 900
ctgtgatgae aactggggag aaaaggagga ccaggtggta tgcaagcaac tgggetgtgg 960
gaagteeete teteeeteet teagagaeeg gaaatgetat ggeeetgggg ttggeegeat 1020
ctggctggat aatgttcgtt gctcagggga ggagcagtcc ctggagcagt gccagcacag 1080
attttggggg tttcacgact gcacccacca ggaagatgtg getgtcatct gctcagtgta 1140
ggtgggdatd atdtaatdtq ttgagtgddt gaatagaaga aaaacadaga agaagggagd 1200
atttactgtc tacatgactg catgggatga acactgatct tettetgece ttggactggg 1350
acttatactt ggtgcccctg attctcaggc cttcagagtt ggatcagaac ttacaacatc 1320
aggictagtt ctraggerat cagaratagt tiggaactar atraccaret tiertatgte 1380
tecacattge acacageaga tteccageet ceataattgt gtgtateaac taettaaata 1440
catteteaca cacacadaea cacacacaca cacacadaea cacacataca ceatttgtee 1500
tgtttctctg aagaactctg acaaaataca gattttggta ctgaaagaga ttctagagga 1560
acggaatttt aaggataaat titctgaatt ggttatgggg titctgaaat tggctctata 1620
atctaattag atataaaatt ctggtaactt tatttacaat aataaagata gcactatgtg 1680
ttcaaa
.210> 148
 -1.11: 347
 H2125 PRT
 42.135 Homo sapiens
 ₹400> 148
 Mot Ala Leu Leu Phe Ser Leu Ile Leu Ala Ile Cys Thr Arg Pro Gly
                                      10
 Phe Leu Ala Ser Pro Ser Gly Val Arg Leu Val Gly Gly Leu His Arg
              2.0
 Cys Glu Gly Arg Val Glu Val Glu Gln Lys Gly Gln Trp Gly Thr Val
                              4()
 Cyo Asp Asp Gly Trp Asp Ilc Lyo Asp Val Ala Val Leu Cys Arg Glu
 Leu Gly Cys Gly Ala Ala Ser Gly Thr Pro Ser Gly Ile Leu Tyr Glu
 Pro Pro Ala Glu Lys Glu Gln Lys Val Leu Ile Gln Ser Val Ser Cys
 Thr Gly Thr Glu Asp Thr Leu Ala Gln Cys Glu Gln Glu Glu Val Tyr
                                  105
              100
```

8.7

Asp Cys Ser His Asp Glu Asp Ala Gly Ala Ser Cys Glu Asn Pro Glu 120 Ser Ser Phe Ser Pro Val Pro Glu Gly Val Arg Leu Ala Asp Gly Pro 130 Gly His Cys Lys Gly Arg Val Glu Val Lys His Gln Asn Gln Trp Tyr 155 150 Thr Val Cys Gln Thr Gly Trp Ser Leu Arg Ala Ala Lys Val Val Cys 170 Arg Gln Leu Gly Cys Gly Arg Ala Val Leu Thr Gln Lys Arg Cys Asn 185 180 Lys His Ala Tyr Gly Arg Lys Pro Ile Trp Leu Ser Gln Mot Ser Cys 200 Ser Gly Arg Glu Ala Thr Leu Gln Asp Cys Pro Ser Gly Pro Trp Gly 215 210 Lys Asn Thr Cys Asn His Asp Glu Asp Thr Trp Val Glu Cys Glu Asp 235 Pro Phe Asp Leu Arg Leu Val Gly Gly Asp Asn Leu Cys Ser Gly Arg 245 Leu Glu Val Leu His Lys Gly Val Trp Gly Ser Val Cys Asp Asp Asn 265 Trp Gly Glu Lys Glu Asp Gln Val Val Cys Lys Gln Leu Gly Cys Gly Lys Ser Leu Ser Pro Ser Phe Arg Asp Arg Lys Cys Tyr Gly Pro Gly 295 290 Val Gly Arg Ile Trp Leu Asp Asn Val Arg Cys Ser Gly Glu Glu Gln 310 Ser Leu Glu Gln Cys Gln His Arg Fhe Trp Gly Phe His Asp Cys Thr 330 His Gln Glu Asp Val Ala Val Ile Cys Ser Val -210> 149 -:211> 24 <212> DNA <213> Artificial Sequence :220>

<223> Description of Artificial Sequence: Synthetic

oligonucleotide probe

```
<4005 149
                                                                   24
ttengeteat cacetteace tgee
<1.10> 150
<111> 24
<112> DNA
<113> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
                                                                   24
<400> 150
gyotdatada aaataddadt aggg
<110> 151
<211> 50
<D12> DNA
<213> Artificial Sequence
<220>
<333> Description of Artificial Sequence: Synthetic
       oligonuclectide probe
 .400> 151
                                                                    50
 gragoctionae ogetatgaag ggegggtgga ggtggaacag aaaggecagt
 .210> 152
 .111> 1427
 ...12> DNA
 1.13> Homo sapiens
 antgeacteg gttetatega ttgaatteed eggggateet etagagated etegaeeteg 60
 anceaegeqt eegeggaege gtgggeggae gegtgggeeg getaeeagga agagtetgee 120
 quaggtgaag gocatggact toatcaccto cacagocato etgeocetge tgtteggetg 180
 cotgggagta tteggadtat teaggatgat geagtgggtg egegggaagg cetacetgeg 240
 daatgotgtg gtggtgatca caggogodac ctcagggctg ggcaaagaat gtgcasaagt 300
 ettetatget gegggtgeta aaetggtget etgtggeegg aatggtgggg ceetagaaga 360
 untcathaga gaadttadog offictatigo daddaaggtig dagadadada agddffadff 420
 aytgacette gacetcacag actotgggge catayttyca geageagetg agateetgea 480
 qtgettttgge tatgtegaea taettgteaa caatgetggg atcagetaee gtggtaeeat 540
 catggadadd adagtggatg tggadaagag ggtdatggag adaaadtadt ttggdddagt \epsilon(0)
  tyctotaaog aaagoactoo tycootocat gatcaagagg aggcaagged acattgtogo 660
  matcagnago atocaqygoa agatgagoat toottttoga toagoatatg cagootocaa 720
  quaeguaadd daggetttet ttgactgtet gegtgeegag atggaacagt atgaaattga 780
  ugtgacogto atcagococo gotacatoca caccaacete tetgtaaatg coatcacego 840
  ggatggatet aggtatggag ttatggacac caccacagee cagggeegaa geeetgtgga 900
  ugtggcccag gatgttettg etgetgtggg gaagaaqaag aaagatgtga teetggetga 960
  ettastgist testiggetg titatetteg aactetgget eetgggetet tetteageet 1020
  eatgyeetee agggeeagaa aagageggaa atecaagaac teetagtaet etgaecagee 1080
```

.

agggenaggg cadaqaaqda qoadtettaq qottqottan totanaaqqq anagitqoat 1146 tiqttgagac tittaatggaq attigtotoa caagtgggaa agantgaaga aanacatoto 1260 qiqcagatot gotggeagag gacaateaaa aacgacaaba agottotton dagggiqaqq 1260 ggaaacacti aaggaataaa Latggagetg gggtifaaca otaaaaacta qaaataaana 1320 totiggeegec atggeecaac tigittatig cagettataa tiggitac 1427

<210> 153

<211> 310

<1112> PRT

<213> Homo sapiens

Met Asp Phe Ile Thr Ser Thr Ala Ile Leu Pro Leu Leu Phe Gly Cys 10

Leu Gly Val Phe Gly Leu Phe Arg Leu Leu Gln Trp Val Arg Gly Lys

Ala Tyr Leu Arg Asn Ala Val Val Val Ile Thr Gly Ala Thr Ser Gly 35

Leu Gly Lys Glu Cys Ala Lys Val Fhe Tyr Ala Ala Gly Ala Lys Leu
50 60

Val Leu Cys Gly Arg Asn Gly Gly Ala Leu Glu Glu Leu Ile Arg Glu
65 70 75 80

Leu Thr Ala Ser His Ala Thr Lys Val Gln Thr His Lys Pro Tyr Leu 95

Val Thr Phe Asp Leu Thr Asp Ser Gly Ala Ile Val Ala Ala Ala Ala 100 100

Glu Ile Leu Gln Cys Phe Gly Tyr Val Asp Ile Leu Val Asr. Asr. Ala 115 120 125

Gly Ile Ser Tyr Arg Gly Thr Ile Met Asp Thr Thr Val Asp Val Asp 130 135

Lys Arg Val Met Glu Thr Asn Tyr Phe Gly Pro Val Ala Len Thr Lys 145 150 155

Ala Leu Leu Fro Ser Met Ile Lys Arg Arg Gln Gly His Ile Val Ala 175

lle Ser Ser 11e Gln Gly Lys Met Ser I1e Pro Phe Arg Ser Ala Tyr 180 185

Ala Ala Ser Lys His Ala Thr Gln Ala Phe Phe Asp Cys Leu Arg Ala 195 200 205

Glu Met Glu Gln Tyr Glu Ile Glu Val Thr Val Ile Ser Pro Gly Tyr

	210					215					31.6					
Ile 225	His	Thr	Asn	Leu	Sei 230	Val	Asn	Ala	lle	Thi 235	Ala	Asp	Gly	Sei	A19 240	
туп	Gly	Val	Met	Asp 245	Thr	Thr	Thr	Ala	Gln 250	Gly	Arg	Sei	Pio	Val 255	Glu	
Val	Ala	Gln	Asp 260	V.a.1	Leu	Ala	Ala	Val 265	Gly	Lys	Lys	Lys	Lys 270	Asp	Val	
Ile	Leu	Ala 275		Leu	Leu	Pro	Ser 280	Leu	Ala	Val	Tyr	Leu 285	Arg	Thr	Leu	
Ala	. Pro 290		Leu	Phe	Phe	Ser 295	Leu	Met	Ala	Ser	Arg 300	Ala	Arg	Lys	Glu	
A19		Ser	Lys	Asn	Ser 310											
<23 <23	10 > 1 11 > 2 12 > E 13 > H	e4 NA	Eicia	al Se	equer	ıce										
<pre><213> Artificial Sequence <220> <220> <220> <220> <220> Cligonucleotide probe</pre>																
< 4 _g- ;	u()> i tg:t	154 aaac	tgg	tgat	ctg '	tggd										24
۔، > ئے >	10> 11> 12> 13>	20 DNA	fici	al S	eque	nce										
· -	20°- 23°-	Desc olig	ript Jonuc	ion 1eot	of A	rtif prob	icia e	.l Se	quen	ice:	Synt	heti	.C			
, <u>2</u>	rāāāc 100 →	155 saaga	ı tgā	igcat	tcc											20
٠.	.10> :11> _12> :13>	14 DNA	ific	ial S	Seque	ence										
	220> 223>	bes:	crip ^d gonu	tion cleo	of tide	Arti: prol	fici be	al S	eque:	nce:	Syn	thet	ic			

```
-400 - 156
                                                              24
tratactgtt cratctropyr acgo
<3:10: 157
<211: 50
< 212 > DNA
<113> Artificial Sequence
<220>
<2238 Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 157
aatggtgggg coctagaaga gotcatcaga gaactcaccg cttctcatgc
                                                               50
<210 > 158
<_11> 1771
<...12> DNA
<_13> Homo sapiens
<400> 158
codacgogto ogotogtott agatogagda adodtotaaa agdagtttag agtogtaaaa 60
aaaaaaaaaa acacacdaaa ogotogoago cacaaaaggg atgaaattto ttotggadat 120
cotectgett etecegular tgategictg etecetagag teettegiga agettittat 180
toctaagagg agaaaatdag toacoggoga aatogtgotg attacaggag otgggoatgg 240
aattgggaga etgaetgeet atgaatttge taaaettaaa ageaagetgg ttetetggga 300
tataaataag datggastgs aggaaadagd tgddaaatgd aagggadtgg gtgddaaggt 360
toatacettt giggiagaer geageaaceg agaagatatt tabagetetg caaagaaggt 420
daaggdagaa attygagatu ttagtatttt agtaaataat gotggtgtag totatadato 480
 agatttgttt gctacacaad atcctcagat tgaaaagact tttgaagtta atgtacttgc 540
 abatttotgg actabasagg catttottoc tgcaatgacg aagaataacc atggccatat 500
 rgteactgig getreggeag eiggaeaigt eleggiedee tiettacigg eitacigtie 600
 aagdaagttt getgetgtty gattteataa aactttgada gatgaadtgy etgeettada 730
 aataactgga gicaaaacaa catgicigig teetaattic giaaacactg geticateaa 780
 agatocaagt acaagtttgg gacccactot ggaacctgag gaagtggtaa acaggotgat 840
 deatgggatt etgaetgage agaagatgat tittatteea tettetatag etttttaae 900
 aadattggaa aggatootto otgagogttt ootggoagtt ttaaaaadgaa aaatoagtgt 940
 taagtttgat geagttatty gatataaaat gaaagegeaa taageaeeta gttttetgaa 1020
 aadigatita deaggittag gitgatgida telaatagig eeagaatitt aatgittgaa 1080
 ottotgtttt tootaattat occoatttot toaatatoat tittgagget tiggoagist 1140
 toatttacta coacttytto tttagocasa ayotgattac atatgatata aacagagaaa 1200
 tadotttaga ggtgadttta aggaaaatga agaaaaagaa odaaaatgad tttattaaaa 1260
 taatttocaa gattatttot geotcacolg anggotttoc amantttota comtaacogt 1920
 ttatttaaca tatattttia tttttgattg cacttaaatt ttgtataatt tqtgtttctt 1880
 tttotgttot adatamento ageaacttoa agetototaa atamaatgaa ggadtatato 1440
 tagtggtatt toacaatgaa tatoatgaac totcaatggg taggtttcat ootacccatt 1500
 godactotgt ttootjagag atacotoada ttooaatgod aaabatttot goadagggaa 1960
 gctagaggtg gatacacgtg ttgcaagtat aaaagcatea ctgggattta aggagaattg 1520
 аааааааааа аазазааааа аазааааааа з
```

.111 - 360

2120 PET

2132 Homo sapiens

Met Lys Phe Leu Leu Asp Ile Leu Leu Leu Pro Leu Leu Ile Val

Cys Ser Leu Glu Ser Phe Val Lys Leu Phe Ile Pro Lys Arg Arg Lys 20

Ser Val Thr Gly Glu Ile Val Leu Ile Thr Gly Ala Gly His Gly Ile

Gly Arg Leu Thr Ala Tyr Glu Phe Ala Lys Leu Lys Ser Lys Leu Val

Leu Trp Asp Ile Asn Lys His Gly Leu Glu Glu Thr Ala Ala Lys Cys 65

Lys Gly Leu Gly Ala Lys Val His Thr Phe Val Val Asp Cys Ser Asn

Arg Glu Asp Ile Tyr Ser Ser Ala Lys Lys Val Lys Ala Glu Ile Gly 100

Asp Val Ser Ile Leu Val Asn Asn Ala Gly Val Val Tyr Thr Ser Asp 120

Leu Phe Ala Thr Gln Asp Pro Gln Ile Glu Lys Thr Phe Glu Val Asn 135

Val Leu Ala His Phe Trp Thr Thr Lys Ala Phe Leu Pro Ala Met Thr 150 145

Lys Asn Asn His Gly His Ile Val Thr Val Ala Ser Ala Ala Gly His 175 170 165

Val Ser Val Pro Phe Leu Leu Ala Tyr Cys Ser Ser Lys Phe Ala Ala 180

Val Gly Phe His Lys Thr Leu Thr Asp Glu Leu Ala Ala Leu Gln Ile

Thr Gly Val Lys Thr Thr Cys Leu Cys Pro Asn Phe Val Asn Thr Gly 215

Phe Ile Lys Asn Pro Ser Thr Ser Leu Gly Pro Thr Leu Glu Pro Glu 230 225

Glu Val Val Asn Arg Leu Met His Gly Ile Leu Thr Glu Gln Lys Met 250 245

```
Ile Fhe Ile Pro Ser Ser Ile Ala Phe Leu Thr Thr Leu Glu Arg Ile
                                265
            260
Leu Pro Glu Arg Phe Leu Ala Val Leu Lys Arg Lys Ile Ser Val Lys
                            280
Phie Asp Ala Val Ile Gly Tyr Lys Met Lys Ala Gln
                        295
<210> 160
<.11> 23
<212> DNA
<213> Artificial Sequence
<230>
Rush Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 160
                                                                    23
ggtgaaggca gaaattggag atg
<210 - 161
 <211> 24
 <..12 > DMA
 <213 Artificial Sequence
 2.00
 1...3. Description of Artificial Sequence: Synthetic
       oligonucleotide probe
 2400> 151
                                                                    24
 atoccatgca tcagcctgtt tacc
 ._10> 162
 4.11> 48
 .212> DNA
 · 113> Artificial Sequence
 1223> Description of Artificial Sequence: Synthetic
  220>
       cligonuclectide probe
  .400> 162
                                                                     48
 untugtgtag totalacato agatttgttt golacacaag alooloag
 +.10> 163
   .:11> 2076
  -.12> DNA
  .213> Homo sapiens
  Hidaogogto ogoggaogog tgggtogaot agttotagat ogogagoggo ogodogoggo 60
  .400× 163
  tragggagga gracegactg egoegranee tgagagatgg ttggtgenat gtggaaggtg 120
```

```
attytttege tygteetytt gatgeetyge enetgtgarg ggetottteg etecetatae 180
agaaqtgttt chatgedade taagggaqae teaggaeagh eattatttet eacebettae 240
attgaagetg ggaagateea aaaaggaaga gaattgagtt tggteggeee ttteecaagga 300
etgaacatga agagstatge eggntreete acegtqaata agaestacaa cagsaacete 360
ttettetggt tetteccage teagataeag eeagaagatg eeeragtagt tetetggeta 41.0
dagggtgggd egggaggtte atecatgttt ggaetetttg tggaadatgg gedttatgtt 4%0
gtoacaagta acatgacett gegtgacaga gaetteeest ggaesacaas geteteeatg 540
otttacattg acaatccagt gggcacaggc ttcagtttta ctgatgatac ccacggatat 600
geagteaatg aggaegatgt ageaegggat ttatacagtg cactaattea gttttteeag 660
atatttcctg aatataaaaa taatgacttt tatgtcactg gggagtctta tgcagggaaa 720
tatgtgccag ccattgcaca ectcatecat tecetcaace etgtgagaga ggtgaagate 700
aacctgaacg gaattgctat tggagatgga tattctgatc ccgaatcaat tatagggggc 840
tatgcagaat teetgtacca aattggettg ttggatgaga agcaaaaaaa gtaetteeag 900
aagcagtgcc atgaatgcat agaacacatc aggaagcaga actggtttga ggcctttgaa 960
atactggata aactactaga tggcqactta acaagtgatc cttcttactt ccagaatgtt 1020
adaggatgta gtaattadta taadtttttg dggtgdadgg aacdtgagga tdagdtttad 1090
tatgtgaaat ttttgteact eecagaggtg agacaagcea tecaegtggg gaatcagaet 1140
tttaatgatg gaactatagt tgaaaagtac ttgcgagaag atacagtaca gtcagttaag 1200
ccatggttaa ctgaaatcat gaataattat aaggttetga tetacaatgg ccaactggae 1260
atcategtgg cagetgeect gacagagege teettgatgg geatggaetg gaaaggatee 1320
caggaataca agaaggcaga aaaaaaagtt tggaagatct ttaaatctga cagtgaagtg 1380
getggttaca teeggeaage gggtgaette cateaggtaa ttattegagg tggaggaeat 1440
attttaccet atgaccagee tetgagaget tttgacatga ttaategatt catttatgga 1500
aaaggatggg atcottatgt tggataaact accttoccaa aagagaacat cagaggtttt 1560
cattgctgaa aagaaaatcg taaaaacaga aaatgtcata ggaataaaaa aattatcttt 1620
toatatotgo aagatttttt toatoaataa aaattatoot tgaaacaagt gagettttgt 1680
 ttttgggggg agatgtttac tacaaaatta acatgagtac atgagtaaga attacattat 1740
 ttaacttaaa ggatgaaagg tatggatgat gtgacactga gacaagatgt ataaatgaaa 1800
 ttttagggto ttgaatagga agttttaatt tottotaaga gtaagtgaaa agtgcagttg 1860
 taacaaacaa agotytaaca tottittioty ocaataacay aagiittyyca tydogigaay 1920
 gtgtttggaa atattattgg ataagaatag eteaattate eeasataaat ggatgsaget 1980
 ataatagttt tggggaaaag attotoaaat gtataaagto ttajaacaaa agaattottt 2040
 gaaataaaaa tattatatat aaaagtaaaa aasaaa
 <210> 164
 <111> 476
 <212> PRT
 <213> Homo sapiens
 Met Val Gly Ala Met Trp Lys Val Ile Val Ser Leu Val Leu Leu Met
 <400> 164
 Pro Gly Pro Cys Asp Gly Leu Phe Arg Ser Leu Tyr Arg Ser Val Ser
 Met Pro Pro Lys Gly Asp Ser Gly Gln Pro Leu Phe Leu Thr Pro Tyr
                               40
 Ile Glu Ala Gly Lys Ile Gln Lys Gly Arg Glu Leu Ser Leu Val Gly
       50
```

Pro Phe Pro Gly Leu Asn Met Lys Ser Tyr Ala Gly Phe Leu Thr Val

65					70					75					80
Asn	Lys	Thi	ıyT	Asn 85	Ser	Asn	Leu	Phe	Phe 90	Trp	Phe	Phe	Pro J	Ala (95	Gln
Ile	Gln	Pro	Glu 100	Asp	Ala	Pro	Vāl	Val 105	Leu	Trp	Leu	Gln	Gly 110	Gly	Pro
Gly	Gly	Ser 115	Ser	Met	Phe	Gly	Leu 120	Phe	Val	Glu	His	Gly 125	Pro	Tyr	Val
Val	Thr	Ser	Asn	Met	Thr	Leu 135	Arg	Asp	Arg	Asp	Phe 140	Pro	Trp	Thr	Thr
Thr 145	Leu	Ser	Met	Leu	Tyr 150	Ile	Asp	Asn	Pro	Val 155	Gly	Thr	Gly	Phe	Ser 160
Phe	Thr	Asp	Asp	Thr 165	His	Gly	Tyr	Ala	Val 170	Asn	Glu	Asp	Asp	Val 175	Ala
Arg	Asp	Leu	Tyr 180	Ser	Ala	Leu	Ile	Gln 185	Phe	Phe	Gln	Ile	Phe 190	Pro	Glu
Tyr	Lys	Asn 195	Asn	Asp	Phe	Tyr	Val 200	Thr	Gly	Glu	Ser	Tyr 205	Ala	Gly	Lys
Tyr	Val 210	Pro	Ala	Ile	Ala	His	Leu	Ile	His	Ser	Leu 220	Asn	Pro	Val	Arg
Glu 225		Lys	lle	Asr.	Leu 230	Asn	Gly	Ile	Ala	11e 235	Gly	Asp	Gly	Tyr	Ser 240
Asp) Pro	Glu	ı Ser	Ile 245		Gly	gly	Tyr	Ala 250	Glu	. Phe	Leu	Tyr	Gln 255	Ile
Gly	Leu	. Lei	1 Asp 260		Lys	Gln	i Lys	Lys 265	туг	. Phe	Gln	Lys	Gln 270	Cys	His
Glı	ı Cys	: Ile 279		ı Hi≘	; Il∈	e Arg	g Lys 280	s Glr	ı Ası	n Trp) Phe	Glu 285	Ala	Phe	Glu
Ile	e Leu 290		p Lys	Leu	ı Lei	ı Asp 295		y Asp	Let	ı Thı	ser 300	Asp	Pro	Ser	Tyr
Ph:		n As:	n Val	L Thi	Gly 310		s Sei	c Ası	ту:	r Tyi 315	c Asr	n Ph∈	e Leu	. Arg	Cys 320
Th	r Glu	ı Pr	o Gli	1 Asy 325		ı Lei	и Тут	r Ty:	r Va 33	l Ly: 0	s Phe	e Let	ı Sei	Leu 335	Pro
Gl [.]	u Val	l Ar	g Gl:		a Il	e Hi	s Va	1 G1°	y As 5	n Gli	n Thi	r Phe	a Asr 350	n Asp	Gly

Thr He Val Glu Lys Tyr Leu Arg Glu Asp Thr Val Gln Ser Val Lys 355 360 365												
Pro Trp Leu Thr Clu Ile Met Asn Asn Tyr Lys Val Leu Ile Tyr Asn 370 380												
Gly Gln Leu Asp Ile Ile Val Ala Ala Ala Leu Thr Glu Arg Ser Leu 335 400												
Met Gly Met Asp Trp Lys Gly Ser Gln Glu Tyr Lys Lys Ala Glu Lys 405 410												
Lys Val Trp Lys Ile Phe Lys Ser Asp Ser Glu Val Ala Gly Tyr Ile 420 425 430												
Arg Gln Ala Gly Asp Phe His Gln Val Ile Ile Arg Gly Gly His 435 440 445												
Ile Leu Fro Tyr Asp Gln Pro Leu Arg Ala Phe Asp Met Ile Asn Arg 450 455 460												
Phe lle Tyr Gly Lys Gly Trp Asp Pro Tyr Val Gly 405 470 475												
<pre><u10> 165 <u11> 24 <u12: <u13:="" artificial="" dna="" pre="" sequence<=""></u12:></u11></u10></pre>												
<pre><::20> :::23 - Description of Artificial Sequence: Synthetic</pre>												
<400→ 165 trocatgoca octaagggag acto	24											
<pre>%210 > 166 %211 > 24 %212 > DNA %213 > Artificial Sequence</pre>												
<pre>.326> .323> Description of Artificial Sequence: Synthetic oligonucleotide probe</pre>												
.400> 166 rggatgaggt gtgcaatggc tggc	24											
210 167 2211 24 2213 DNA 2213 Artificial Sequence												

```
<223 - Description of Artificial Sequence: Synthetic
<2200
      oligonucleotide probe
<400 • 167
                                                                   2.4
ageteteaga ggetggteat aggg
<210 > 158
<211> 50
<212 > DMA
<213> Artificial Sequence
<223> Description of Artificial Sequence: Synthetic
<120>
      oligonucleotide probe
                                                                   50
<400> 168
gtoggooott toocaggact gaadatgaag agttatgoog gottootoad
 <210> 169
 <211> 2477
 <212> DNA
 <213> Homo sapiens
 egagggettt teeggeteeg gaatggeaca tgtgggaate ceagtettgt tggetacaac 60
 attitteeet tieetaacaa gitetaacag eigtietaac agetagigat eaggggitet 120
 tettgatgga gaagaaagga etgagggeag agaagggeae teteaeteag ggtgaecage 180
 tecttgeete tetgtggata acagagoatg agaaagtgaa gagatgcage ggagtgaggt 240
 gatggaagte taaaatagga aggaattttg tgtgcaatat cagactctgg gagcagttga 300
 cotggagage otgggggagg gootgootaa caagotttoa aaaaacagga goganttoca 360
 ctgggctggg ataagacgtg coggtaggat agggaagact gggtttagtc ctaatatcaa 420
 attgactggc tgggtgaact tcaacagcct tttaacctct ctgggagatg aaaacgatgg 480
 ettaagggge cagaaataga gatgetttgt aaaataaaat tttaaaaaaa geaagtattt 540
 tatagcataa aggotagaga coaaaataga taacaggatt cootgaacat tootaagagg 600
 qaqaaagtat gttaaaaaata gaaaaaccaa aatgcagaag gaggagactc acagagctaa 660
 accaggatog ggaccetggg teaggecage etetttgete eteceggaaa ttattttttgg 720
 totgaccaet otgeottgtg ttttgcagaa toatgtgagg gccaaccggg gaaggtggag 780
 cagatgagea cacacaggag degteteete acegeegeee eteteageat ggaacagagg 840
  caqcoctgge coogggeest ggaggtggas agcogstetg tggtestget steagtggts 900
  tgggtgdtgd tggcdccddd agdagddgd atgcdtdagt tdagdaddtt ddactdtgag 960
  aatogtgant ggandttcaa ndanttgann gtonaccaag ggangggggn egthtatgtg 1020
  qqqqccatca accqqqtcta taaqctqaca qqcaacctqa ccatccaqqt qqctcataaq 1080
  acagggocag aagaggacaa caagtotogt taccogcocc toatogtgca gocctgcago 1140
  gaagtgotna cootcaccaa caatgtcaac aagctgotca teattgacta etetgagaac 1200
  egeotigetige detigtigggag detetadeag ggggtetgea agetigetigeg getiggatigae 1260
  etetteated tggtggaged atoccadaag aaggagdadt acctgtcdag tgtdaadaag 1320
  acgggcadea tgtacggggt gattgtgcgc tctgagggtg aggatggdaa gctettcatc 1380
  ggcacggetg tggatgggaa gcaggattae tteeegacee tgteeageeg gaagetgeee 1440
  egagaceetg agteeteage eatgetegae tatgagetae acagegattt tgteteetet 1500
  ctdatdaaga teeetteaga eaceetggee etggteteee aetttgadat ettetacate 1560
  tacygotting chagingging cittighetac titleheacty tecageorga gacceetgag 1620
  ggtgtggcca tcaactcogc tggagacate ttetacacet cacgcategt geggetetge 1680
```

gtggg gcett cagta ttgca tggc taca gtgg tgct agat aggg gtaa acat	aatac ccaal agatc gactc gactc ccaac tttt ccaac gtta ggaa	de go La todo ace de ace gg ggg ace teg de teg de teg de teg de teg ace ace ace ace ace ace ace ace ace ace	notice naces ggage gaage gates cates gggge catte tagge tage	atgoa agoa agoat gaagt gaac gaac gaac gaac gaat gaat	a ggo gga tga tga ggo gga ggo ga ggo ttta	atgot acgat actot actoc actoc cocto tcac attoc cttoc	etac egta egec eaeg ggga etet eaag caaa tett	ctgg ctct ctgt tacc aagg gget gtgg ctga gagi gggg	gndaagndaagndaagndagtgegegegegegegegegegegegegegegegegegeg	age of the second secon	teggg tetteedt aggge teede cagte aegte taaga tgga agec	ggaet gtdda gaad gagggagg btada aggta aaatg atday atday	da a gg gg c c c a gg c c c c	gggcatggcatggataaaggctaaaggctaaaggctaaaggctaaggctaagggtaaagggggggaaagggggggg	idaac actto acago acago acaga ggtgg taaga ggtat	1746 1800 1860 1910 1980 2040 2160 2220 2280 2340 2400 2477
<211	> 55 > PR	2														
	> PK > Ho		apie	ns												
<400 Met 1	> 17 Gly	0 Thr	Leu	Gly 5	Gln	Ala	Ser	Leu	Phe 10	Ala	Pro	Pro	Gly	Asn 15	Туг	
Phe	Trp	Ser	Asp 20	His	Ser	Ala	Leu	Cys 25	Phe	Ala	Glu	Ser	Cys 30	Glu	Glγ	
Gln	Pro	Gly 35	Lys	Val	Glu	Gln	Met 40	Ser	Thr	His	Arg	Ser 45	Arg	Leu	Leu	
Thr	Ala 50	Ala	Pro	Leu	Ser	Met 55	Glu	Gln	Arg	Gln	Pro 60	Trp	Pro	Arg	Ala	
Leu 65	Glu	Val	Asp	Ser	Arg 70	Ser	Val	Val	Leu	Leu 75	Ser	Val	Val	Trp	Val 80	
Leu	Leu	Ala	Pro	Pro 85	Ala	Ala	Gly	Met	Pro 90	Gln	Phe	Ser	Thr	Phe 95	His	
Ser	Glu	Asn	Arg 100	Asp	Trp	Thr	Phe	Asn 105	His	Leu	Thr	Val	His 110	Gln	Gly	
Thr	Gly	Ala 115	Val	Tyr	Val	Gly	Ala 120	Ile	Asn	Arg	Val	Tyr 125	Lys	Leu	Thr	
Gly	Asn 130	Leu	Thr	Ile	Gln	Val 135		His	Lys	Thr	Gly 140	Pro	Glu	Glu	Asp	
Asn 145		Ser	Arg	Tyr	Pro 150	Pro	Leu	Ile	Val	Gln 155	Pro	Cys	Ser	Glu	Val 160	
Leu	Thr	Leu	Thr	Asn 165	Asn	Val	Asn	Lys	Leu 170	. Let	ıIle	Ile	Asp	Tyr 175	Ser	

Glu Asn Arg Leu Leu Ala Cys Gly Ser Leu Tyr Gln Gly Val Cys Lys 185 Leu Leu Arg Leu Asp Asp Leu Phe Ile Leu Val Glu Pro Scr His Lys 200 195 Lys Glu His Tyr Leu Ser Ser Val Asn Lys Thr Gly Thr Met Tyr Gly 215 Val Ile Val Arg Ser Glu Gly Glu Asp Gly Lys Leu Phe Ile Gly Thr 235 230 Ala Val Asp Gly Lys Gln Asp Tyr Phe Pro Thr Leu Ser Ser Arg Lys 250 245 Leu Fro Arg Asp Pro Glu Ser Ser Ala Met Leu Asp Tyr Glu Leu His 265 Ser Asp Phe Val Ser Ser Leu Ile Lys Ile Pro Ser Asp Thr Leu Ala 275 Leu Val Ser His Phe Asp Ile Phe Tyr Ile Tyr Gly Phe Ala Ser Gly 295 Gly Phe Val Tyr Phe Leu Thr Val Gln Pro Glu Thr Pro Glu Gly Val Ala Ile Asn Ser Ala Gly Asp Leu Phe Tyr Thr Ser Arg Ile Val Arg 330 Leu Cys Lys Asp Asp Pro Lys Phe His Ser Tyr Val Ser Leu Fro Phe 345 Gly Cys Thr Arg Ala Gly Val Glu Tyr Arg Leu Leu Gln Ala Ala Tyr Leu Ala Lys Pro Gly Asp Ser Leu Ala Gln Ala Phe Asn Ile Thr Ser 380 375 Gln Asp Asp Val Leu Phe Ala Ile Phe Ser Lys Gly Gln Lys Gln Tyr His His Pro Pro Asp Asp Ser Ala Leu Cys Ala Phe Pro Ile Arg Ala 410 Ile Asn Leu Gln Ile Lys Glu Arg Leu Gln Ser Cys Tyr Gln Gly Glu 425 Gly Asn Leu Glu Leu Asn Trp Leu Leu Gly Lys Asp Val Gln Cys Thr 440 435 Lys Ala Pro Val Pro Ile Asp Asp Asn Phe Cys Gly Leu Asp Ile Asn

460 455 450 Gln Pro Leu Gly Gly Ser Thr Pro Val Glu Gly Leu Thr Leu Tyr Thi 470 465 Thr Ser Arg Asp Arg Met Thr Ser Val Ala Ser Tyr Val Tyr Asn Gly 490 485 Tyr Ser Val Val Phe Val Gly Thr Lys Ser Gly Lys Leu Lys Lys Val Arg Val Tyr Glu Phe Arg Cys Ser Asn Ala Ile His Leu Leu Ser Lys 520 Glu Ser Leu Leu Glu Gly Ser Tyr Trp Trp Arq Phe Asn Tyr Arg Gln 535 Leu Tyr Phe Leu Gly Glu Gln Arg 550 545 <210> 171 <211> 20 <212> DNA <213> Artificial Sequence <220> <2.13> Description of Artificial Sequence: Synthetic oligonucleotide probe <400> 171 20 togaataccg cctcctgcag <210> 172 <.11> 24 < 12 > DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe .400> 172 24 cttctgccct ttggagaaga tggc <110> 173 -211> 43 <212> DNA <213> Artificial Sequence <223> Description of Artificial Sequence: Synthetic < 220> oligonuclestide probe

```
<400> 173
                                                                  42
ggaeteactq geccaggect teaatathab dagccaggae gat
<210> 174
<2115 3106
<212> DNA
<2155 Homo sapiens
k2200
<321> modified_base
<222> (1683)
<223 a, t, c or g
< 400 + 174
aggetecege gegeggetga gtgeggaetg gaqtgggaae eegggteeee gegettagag 60
aadadgegat gacdaegtgg ageetengge ggaggeegge engeaegety ggadtentge 120
tgetggtegt ettgggette etggtgetee geaggetgga etggageade etggtedete 180
tgcggctccg ccatcgacag ctggggctgc aggccaaggg ctggaacttc atgctggagg 240
attocacett etggatette gggggeteea tecactattt eegtgtgeee agggagtaet 300
ggagggadeg octgetgaag atgaaggeet gtggettgaa caeeeteade aeetatgtte 360
cgtggaaddt gdatgagdda gaaagaggda aatttgadtt dtotgggaad dtggaddtgg 420
aggeettegt eetgatggee geagagateg ggetgtgggt gattetgegt eeaggeeest 480
acatotgoag tgagatggad otogggggdt tgdddagctg gdtadtddaa gadddtggda 540
tgaggotgag gadaacttad aagggottda dogaagdagt ggaddtttat tittgaddadd 600
 tgatgtocag ggtggtgcca ctccagtaca agcgtggggg acctatcatt gccgtgcagg 660
 tggagaatga atatggttoo tataataaag accocgoata catgeoctac gtcaagaagg 720
 cactggadga dogtggdatt gtggaadtgd tootgadttd agadaadaag gatgggdtga 780
 dcaaggygat tgtcdaggga gtdttggdda ccatcaadtt gcaptcaada dadgagdtgd 849
 agetaetgae eacetttete tidaacytee aggygaetea geocaagaty gigatggagt 900
 antgganggg gtggtttgan togtggggag geoctdadaa tatottggat tottotgagg 900
 ttttgaaaac ogtgtotgoo attgtggaeg deggotooto catcaaccto tacatgttoo 1030
 acqgagqcac caactitggc ticatgaatg gagccatgca cficcatgac tacaagtcag 10%0
 Atgicaccag claigactat gaigetgige igacagaage eggegatiae acggecaagi 1140
 adatgaaget tegagaette tteggeteda teteaggeat edetetedet eegecadetg 1300
 accttettee caagatgeeg tatgageest taacgecagt ettgtacetg tetetgtggg 1260
 acycootdaa gtacctgggg gagccaatca agtotgaaaa goccatdaac atggagaacc 1320
 tgenagthaa tgqqqqaaat gqahagthot toqqqtabat tothtatqaq abcaghatha 1380
 cetegtetgg catedteaqt ggedaegtgd atgategggg geaggtgttt gtgaacadag 1440
 tathdatagg attidttggad tadaagadaa ogaagattgd tigtdooddtg atodagggtt 1500
 acadogtigot gaggatottig giggagaato gitgggogagt caacitatggg gagaatatig 1560
 atgaccagog caaaggotta attggaaato totatotgaa tgattoacoo otgaaaaact 1620
 teagaateta tagootggat atgaagaaga gettetiisa jaggiteggo etggamaaat 1630
 ggngttodot dodagaaada oddadattad otgotttott ottogggtago ttgtodatda 1740
 getedaeged tigigadaed tittetgaage teggaggetg ggagaaggeg gittgtattea 1800
 toaatggoda gaadettgga egttactdga adattggade ddagaagaeg efftadeted 1860
 caggingetty gittgageage ggaateaace agginategt hibtgaggag angatggegg 1920
 goodtgoatt adagttdadg gaaadddddd addtgggdag gaaddagtad attaagtgag 1980
 eggtggcadd dddtddtgdt ggtgddagtg ggagadtgdd gddtddtdtt gaddtgaagd 2040
 ctggtggetg etgeeceaec ceteaetgea aaageatete ettaagtage aaecteaggg .100
 actigggget acagtetiged octgrotoag objaaaaced taageetigea gygaaaggtig 1160
  ggatggetet gggeetgget tiqtigatga tgyetticet acagooetge tettgtgeeg 1.20
  aggotgtogg gotgtotota gggtgggago agotaatoag atogdocago otttggodot 2280
```

```
dagaaaaagt gotgaaaogt qoonttqoan oyqacqtoad agoodtgoga goatotgotg 2340
gaeteaggeg tgetettige tggtteetgg gaggettgge cacatecete atggececat 2400
tttatccccq aaatcctggg tgtgtcacca gtgtagaggg tggggaaggg gtgtctcacc 2460
tgagetgade ftgttettee tteacaadet tetgageett etttgggatt etggaaggaa 1520
ctoggogtga gaaacatgtg acttoccctt toccttocca ctogetgett cocacagggt 1580
gacaggotgg gotggagaaa cagaaatoot caccotgogt ottoccaagt tagcaggtgt 1640
etetggtgtt dagtgaggag gadatgtgag teetggeaga agedatggde eatgtetgda 1700
catocaggga ggaggacaga aggcccagot cacatgtgag tootggcaga agccatggcc 2760
datgtotgoa datodaggga ggaggadaga aggoddagot dadatgtgag todtggdaga 2820
agreatggee catgtetgea catgeagga ggaggacaga aggeecaget cacatgtgag 2890
teetggeaga ageeatggee catgtetgea cateeaggga gjaggaeaga aggeecaget 2940
cagtggeece egeteeceae ececeaegee egaacageag gggcagagea geecteette 3000
gaagtgtgtc caagtccgca tttgagcctt gttctggggc ccagcccaac acctggcttg 3060
ggctcactgt cctgagttgc agtaaagcta taaccttgaa tcacaa
<210> 175
<211> 636
<212> PRT
<213> Homo sapiens
<220>
<221> MOD RES
<222> (539)
<223> Any amino acid
<400> 175
Met Thr Thr Trp Ser Leu Arg Arg Arg Pro Ala Arg Thr Leu Gly Leu
Leu Leu Leu Val Val Leu Gly Phe Leu Val Leu Arg Arg Leu Asp Trp
                                  25
              20
 Ser Thr Leu Val Pro Leu Arg Leu Arg His Arg Gln Leu Gly Leu Gln
 Ala Lys Gly Trp Asn Phe Met Leu Glu Asp Ser Thr Phe Trp Ile Phe
 Gly Gly Ser Ile His Tyr Phe Arg Val Pro Arg Glu Tyr Trp Arg Asp
                      70
  65
 Arg Leu Leu Lys Met Lys Ala Cys Gly Leu Asn Thr Leu Thr Thr Tyr
 Val Pro Trp Asn Leu His Glu Pro Glu Arg Gly Lys Phe Asp Phe Ser
             100
 Gly Asn Leu Asp Leu Glu Ala Phe Val Leu Met Ala Ala Glu Ile Gly
                              120
         115
 Leu Trp Val Ile Leu Arg Pro Gly Pro Tyr Ile Cys Ser Glu Met Asp
                                              140
                         135
```

Leu Gly Gly 145	Leu Pro	Ser Trp	Leu L	∍eu Gli	1 Asp 155	Pro Gly	Met A	Arg Leu 160
Arg Thr Thr	Tyr Lys 165	Gly Pho	Thr 9	Glu Ala 17	a Val	Asp Let	Tyr	Phe Asp 175
His Leu Met	Ser Arg	Val Val	Pro I	Leu Gl 185	n Tyr	Lys Arg	g Gly 190	Gly Pro
Ile Ile Ala 195	Val Gln	Val Glu	1 Asn (200	Glu Ty	r Gly	Ser Ty 20	r Asn	Lys Asp
Pro Ala Tyr 210		21)			220		
Val Glu Leu 225		230			233			
Ile Val Gln	24	5		2.				
Leu Gln Leu	260			2.00				
Lys Met Val	5		280			_		
Pro His Ası 290		23	15					
Ile Val As		310			21	J		
Thr Asn Ph	3.2	25		-	, , 0			
Ser Asp Va	340			343				
Asp Tyr Th	55		300	,				
Ser Gly II		Ĵ	15			0.7.		
Tyr Glu P 385		390			J.			
Lys Tyr L	4	:05			410			
Asn Leu P	ro Val <i>F</i> 420	Asn Gly	Gly As	n Gly 425	Gln S	er Phe	Gly Ty 41	r Ile Leu 10

Tyr Glu Thr Ser Ile Thr Ser Ser Gly Ile Leu Ser Gly His Val His 440

Asp Arg Gly Gln Val Phe Val Asn Thr Val Ser Ile Gly Phe Leu Asp 455 450

Tyr Lys Thr Thr Lys Ile Ala Val Pro Leu Ile Gln Gly Tyr Thr Val 470 465

Leu Arg Ile Leu Val Glu Asn Arg Gly Arg Val Asn Tyr Gly Glu Asn 490 485

Ile Asp Asp Gln Arg Lys Gly Leu Ile Gly Asn Leu Tyr Leu Asn Asp 500

Ser Pro Leu Lys Asn Phe Arg Ile Tyr Ser Leu Asp Met Lys Lys Ser 520

Phe Phe Gln Arg Phe Gly Leu Asp Lys Trp Xaa Ser Leu Pro Glu Thr 535 530

Pro Thr Leu Pro Ala Phe Phe Leu Gly Ser Leu Ser Ile Ser Ser Thr 550

Pro Cys Asp Thr Phe Leu Lys Leu Glu Gly Trp Glu Lys Gly Val Val

Phe Ile Asr. Gly Gln Asn Leu Gly Arg Tyr Trp Asn 1le Gly Pro Gln

Lys Thr Leu Tyr Leu Pro Gly Pro Trp Leu Ser Ser Gly Ile Asn Gln

Val Ile Val Phe Glu Glu Thr Met Ala Gly Pro Ala Leu Gln Phe Thr 615 610

Glu Thr Pro His Leu Gly Arg Asn Gln Tyr He Lys 630 625

<110> 176

2011> 2505

<212> DNA

<213> Homo sapiens

gyggacgogg agotgagagg otocgggota gotaggtgta gggytggacg ggtcccagga 60 occtggtgag ggttetetae ttggeetteg gtgggggtea agangeagge acctaegeea 120 aaggggagca aageeggget eggeeegagg eeeccaggac etecatetee caatgttgga 180 ggaateegae aeqtgaeggt etgteegeeg teteagaeta gaggageget gtaaaegeea 240 tggctcccaa gaagctgtcc tgccttcgtt ccctgctgct gccgctcagc ctgacgctac 300 tgdtgdddda ggdagadaet dggtdgttdg tagtggatag gggtdatgad dggtttdtdd 360 taganggggs occeptionge tatgtgtotg gragnetgea stastitogg gtacogeggg 420

```
tgetttggge egacegyett ttgaagatge gatggagegg eeteaaegee atacagtttt 480
atytgocotg gaactaccae gagocacago otggggtota taaotttaat ggcagooggg 540
acctdattgd ctttctgaat gaggdagdto tagcgaaddt gttggtdata ctqagaddag 600
gaeettacat etgtgeagag tgggagatgg ggggteteec ateetggttg ettegaaaac 660
ctgaaattca totaagaaco toagatooag acttoottgo egeagtggac toetggttca 720
aggictiget geceaagata tateeatgge titateacaa tggggggeaac ateattagea 780
ttdaggtgga gaatgaatat ggtagdtada gagddtgtga dttdagdtad atgaggdadt 840
tggetggget etteegtgea etgetaggag aaaagatett getetteace acagatggge 900
ctgaaggadt caagtgtggd teeeteeggg gadtetatad caetgtagat tittggeedag 960
ctgacaacat gaccaaaatc tttaccctgc ttcggaagta tgaaccccat gggccattgg 1020
taaactetga gtactacaca ggetggetgg attactgggg ecagaateac tecacacggt 1080
ctgtgtcagc tgtaaccaaa ggactagaga acatgctcaa gttgggagcc agtgtgaaca 1140
tgtacatgtt ccatggaggt accaactttg gatattggaa tggtgccgat aagaagggac 1200
getteettee gattaetaee agetatgaet atgatgeaee tatatetgaa geaggggaee 1260
cracacctaa getttttget ettegagatg teateageaa gtteeaggaa gtteetttgg 1320
gauntttand teconogage conaagatga tgettggade tgtgadtetg danntggttg 1380
ggcatttact ggcttteeta gaettgettf gedeeegtgg gedeatteat teaatettge 1440
caatgacett tgaggetgte aageaggace atggetteat gttgtaeega aeetatatga 1500
cocataccat tittgageca acaccattet gggtgecaaa taatggagte catgaccgtg 1560
cotatgtgat ggtggatggg gtgttccagg gtgttgtgga gcgaaatatg agagacaaac 1620
tatttttgac ggggaaactg gggtccaaac tggatatctt ggtggagaac atggggaggc 1680
teagetttgg gtetaacage agtgaettea agggeetgtt gaageeacca attetgggge 1740
aaacaatoot tacccagtgg atgatgttoc ctotgaaaat tgataacott gtgaagtggt 1800
ggtttcccct ccagttgcca aaatggccat atcctcaagc tccttctggc cccacattct 1860
actocaaaac atttocaatt ttaggotoag ttggggacac atttotatat otacotggat 1920
ggaccaaggg ccaagtetgg atcaatgggt ttaacttggg ccggtactgg acaaagcagg 1980
 ggccacaaca gaccctctac gtgccaagat tcctgctgtt tcctagggga gccctcaaca 2040
 asattacatt qetggaacta gaagatgtac etetecagee ecaagtecaa tttttggata 2100
 agoetateet caatageact agtaetttge acaggaeaca tateaattee ettteagetg (160
 atacactgag tgcctctgaa ccaatggagt taagtgygca ctgaaaggta ggccgggcat 2020
 ggtggotdat geetgtaate ecageaettt gggaggetga gaegggtgga ttaeetgagg 1180
 traggarttr aagarrager tygoraarat gytgaaarer egtetreact aaaaatacaa 2340
 awattagoog ggogtgatgg tgggcacoto taatoocago taottgggag gotgagggca 2400
 ggagaattge ttgaatecag gaggeagagg ttgeagtgag tggaggttgt accaetgeae 3450
 tocagootgg otgacagtga gacactocat otcaaaaaaa aaaaa
 <210> 177
 <311> 654
 <312> PRT
 .213> Homo sapiens
 <400> 177
 Met Ala Pro Lys Lys Leu Ser Cys Leu Arg Ser Leu Leu Leu Pro Leu
 Ser Leu Thr Leu Leu Leu Pro Gln Ala Asp Thr Arg Ser Phe Val Val
               20
 Asp Arg Gly His Asp Arg Phe Leu Leu Asp Gly Ala Pro Phe Arg Tyr
                                                   45
                               40
 Val Ser Gly Ser Leu His Tyr Phe Arg Val Pro Arg Val Leu Trp Ala
```

Asp Arg Leu Leu Lys Met Arg Trp Ser Gly Leu Asn Ala He Gin Phe 70 70
Tyr Val Pro Trp Asn Tyr His Glu Pro Gln Pro Gly Val Tyr Asn Phe 95 85
Asn Gly Ser Arg Asp Leu Ile Ala Phe Leu Asn Glu Ala Ala Leu Ala 100 105 110
Asn Leu Leu Val Ile Leu Arg Pro Gly Pro Tyr Ile Cys Ala Glu Trp 125
Glu Met Gly Gly Leu Pro Ser Trp Leu Leu Arg Lys Pro Glu Ile His 130 135
Leu Arg Thr Ser Asp Pro Asp Phe Leu Ala Ala Val Asp Ser Trp Phe 145 150 155
Lys Val Leu Leu Pro Lys Ile Tyr Pro Trp Leu Tyr His Asn Gly Gly 175
Asn Ile Ile Ser Ile Gln Val Glu Asn Glu Tyr Gly Ser Tyr Arg Ala 180 185
Cys Asp Phe Ser Tyr Met Arg His Leu Ala Gly Leu Phe Arg Ala Leu 195 200 205
Leu Gly Glu Lys Ile Leu Leu Phe Thr Thr Asp Gly Pro Glu Gly Leu 210 215
Lys Cys Gly Ser Leu Arg Gly Leu Tyr Thr Thr Val Asp Phe Gly Pro 240 225
Ala Asp Asn Met Thr Lys Ile Phe Thr Leu Leu Arg Lys Tyr Glu Pro 255 245
His Gly Pro Leu Val Asn Ser Glu Tyr Tyr Thr Gly Trp Leu Asp Tyr 260 265
Trp Gly Gln Asn His Ser Thr Arg Ser Val Ser Ala Val Thr Lys Gly 285
Leu Glu Asn Met Leu Lys Leu Gly Ala Ser Val Asn Met Tyr Met Phe 290 295
His Gly Gly Thr Asn Phe Gly Tyr Trp Asn Gly Ala Asp Lys Lys Gly 320
Arg Phe Leu Pro Ile Thr Thr Ser Tyr Asp Tyr Asp Ala Pro Ile Ser 335
Glu Ala Gly Asp Pro Thr Pro Lys Leu Phe Ala Leu Arg Asp Val Ile

345 340 Ser Lys Phe Gln Glu Val Pro Leu Gly Pro Leu Pro Pro Pro Ser Pro 360 Lys Met Met Leu Gly Pro Val Thr Leu His Leu Val Gly His Leu Leu 375 Ala Phe Leu Asp Leu Leu Cys Pro Arg Gly Pro Ile His Ser Ile Leu 390 Pro Met Thr Phe Glu Ala Val Lys Gln Asp His Gly Phe Met Leu Tyr 405 Arg Thr Tyr Met Thr His Thr Ile Phe Glu Pro Thr Pro Phe Trp Val 425 Pro Asn Asn Gly Val His Asp Arg Ala Tyr Val Met Val Asp Gly Val 435 Phe Gln Gly Val Val Glu Arg Asn Met Arg Asp Lys Leu Phe Leu Thr 455 Gly Lys Leu Gly Ser Lys Leu Asp Ile Leu Val Glu Asn Met Gly Arg 470 Leu Ser Phe Gly Ser Asn Ser Ser Asp Phe Lys Gly Leu Leu Lys Pro Pro Ile Leu Gly Gln Thr Ile Leu Thr Gln Trp Met Met Phe Pro Leu Lys Ile Asp Asn Leu Val Lys Trp Trp Phe Pro Leu Gln Leu Pro Lys 520 515 Trp Pro Tyr Pro Gln Ala Pro Ser Gly Pro Thr Phe Tyr Ser Lys Thr 535 Phe Pro Ile Leu Gly Ser Val Gly Asp Thr Phe Leu Tyr Leu Pro Gly 550 545 Trp Thr Lys Gly Gln Val Trp Ile Asn Gly Phe Asn Leu Gly Arg Tyr 565 Trp Thr Lys Gln Gly Pro Gln Gln Thr Leu Tyr Val Pro Arg Phe Leu Leu Phe Pro Arg Gly Ala Leu Asn Lys Ile Thr Leu Leu Glu Leu Glu 600 595 Asp Val Pro Leu Gln Pro Gln Val Gln Phe Leu Asp Lys Pro Ile Leu 615 610

Asn Ser Thr Ser Thr Leu His Arg Thr His Ile Asn Ser Leu Ser Ala 625 630 635	
Asp Thr Leu Ser Ala Ser Glu Pro Met Glu Leu Ser Gly His 645	
<pre><210 > 178 <211 > 24 <211 > DNA <213 > Artificial Sequence</pre>	
<220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe	
<406> 178 tygetaetec aagaeeetgg eatg	24
<pre><010> 179 <011> 24 <012> DNA <013> Artificial Sequence</pre>	
<pre><220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe</pre>	
.400> 179 tggadaatd codttgotda godd	24
0210> 180 0211> 50 0212> DNA 0213> Artificial Sequence	
<pre><310> <323> Description of Artificial Sequence: Synthetic oligonucleotide probe</pre>	
.400> 180 gagetteace gaageagtgg acctttattt tgaccacetg atgtecaggg	50
.010> 181 .011> 22 .012> DNA .013> Artificial Sequence	
<pre><320> <323> Description of Artificial Sequence: Synthetic oligonucleotide probe</pre>	
<400> 181 ccagetatga etatgatgea ec	22

```
<210> 182
<211> 24
<2112> DNA
<213> Artificial Sequence
<2220>
<1335 Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 192
                                                                   24
tggcacccag aatggtgttg gctc
<210> 183
<.11> 50
<..12> ENA
<213> Artificial Sequence
<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
 <400> 183
                                                                   50
 cgagatytca tdagdaagtt ddaggaagtt ddtttgggad dtttaddtdd
 <210> 184
 ...11> 1947
 enin> DNA
 .213> Homo sapiens
 gotttgaaca cgtctgcaag cocaaagttg agcatctgat tggttatgag gtatttgagt 60
 gradocadaa tatggottad atgttgaaaa agottotoat dagttadata todattattt 120
 grighttatgg officered endtacacto toffctggtt afficaggata cofffqaagg 180
 aatattottt ogaaaaagto agagaagaga goagttttag tgacattoca gatgtoaaaa 240
 acgattttgc gttccttctt cacatggtag accagtatga ccagctatat tccaagcgtt 300
 ttggtqtgtt cttgtcagaa gttagtgaaa ataaacttag ggaaattagt ttgaaccatg 350
 agtggacatt tgaaaaactc aygeageaca ttteaegeaa egeeeaggac aageaggagt 420
 tgeatetgtt catgotgteg goggtgeeeg atgetgtett tgaeeteaca gaeetggatg 490
 tgctaaagct tgaactaatt ccagaagcta aaatteetge taagatttet caaatgacta 540
 acctomaaga getemadete tgemadtgem etgmaaaagt tgaamagamt gettttaget 600
 ttottogoga toacttgaga tgccttcacg tgaaqttcac tgatgtggct gaaattcctg 660
 ostgggtgta titgstsaaa aassttsgag agligtastt aataogsaat tigaastsig 720
  aaaadaataa gatgatagga dttgaatdtd tddgagagtt geggdaddtt aagattdtdd 780
  adgtglagag daatttgadd aaagttoddt ddaadattad agatgtggdt ddadatdtta 840
  maaagttagt dattoataat gaoggoadta aadtottggt astgaadago ottaagaaaa 900
  tgatgaatgt eqetgagetg gaactecaga actgtgaget agagagaate ecacatgeta 960
  ttttdagdet etetaattta caggaactgg atttaaagte caataacatt egeacaattg 1020
  aggaaateat dagtttodag datttaaaad gadtgadttg tttaaaaatta tggdataada 1090
  aaattgttad tattddtddd tgtattaddd atgtdaaaaa dttggagtda dtftatttdt 1140
  ctaacaacaa getegaatee (taccagtgg cagtatttag tttacagaaa eteagatget 1200
  tagatgtgag ctacaacaac atttcaatga tuccaataga aataggattg cttcagaacc 1060
  tycagoattt goatatoact gygaacaaaq tygacattet godaaaacaa ttytttaaat 1320
```

quataaaqtt qaqqactttq aatotqqqaa aqaactqaat caceteaete ccagagaaag 1380 ttqqtcagct etcecaqctc actnaqetqq agntqaaqqq gaactqcttq gacegectgc 1440 tttttqataa cctgccactc qaagtcaaag aggcattgaa tcaagacata aatatteeet 1500 ttgcaaatqq gatttaaact aagataatat atgcacaqtq atgtcqaqq acaacttcct 16.00 agattgcaaag tgctcacqta caagttatta caagataata caagataata gattttaaaat aaaacagaqa ggattgcataq aaggctgata gaagacataa ctgaatgttc 1740 ttttaaaat aaaacagaqa ggattcaatt cactaattt cactaatt cactaattt tttttttt	
<pre><210> 185 <211> 501 <212> PRT <213> Homo sapiens</pre>	
<pre><400> 185 Met Ala Tyr Met Leu Lys Lys Leu Leu Ile Ser Tyr Ile Ser Ile Ile 1</pre>	
Cys Val Tyr Gly Phe Ile Cys Leu Tyr Thr Leu Phe Trp Leu Phe Arg	
Ile Pro Leu Lys Glu Tyr Ser Phe Glu Lys Val Arg Glu Glu Ser Ser 35 40 45	
Fhe Ser Asp Ile Pro Asp Val Lys Asn Asp Phe Ala Phe Leu Leu His 50 55	
Met Val Asp Gln Tyr Asp Gln Leu Tyr Ser Lys Arg Phe Gly Val Phe 65 70 75 80	
Leu Ser Glu Val Ser Glu Asn Lys Leu Arg Glu Ile Ser Leu Asn His 95	
Glu Trp Thr Phe Glu Lys Leu Arg Gln His Ile Ser Arg Asn Ala Gln 100 105 110	
Asp Lys Gln Glu Leu His Leu Phe Met Leu Ser Gly Val Pro Asp Ala 115 120 125	
Val Phe Asp Leu Thr Asp Leu Asp Val Leu Lys Leu Glu Leu Ile Pro 130 135 140	
Glu Ala Lys Ile Pro Ala Lys Ile Ser Gln Met Thr Asn Leu Gln Glu 145 150 150	
Leu His Leu Cys His Cys Pro Ala Lys Val Glu Gln Thr Ala Phe Ser 165 170 175	
Phe Leu Arg Asp His Leu Arg Cys Leu His Val Lys Phe Thr Asp Val 180 185	

Ala Glu Ile Pro Ala Trp Val Tyr Leu Leu Lys Asn Leu Arg Glu Leu 200 Tyr Leu Ile Gly Asn Leu Asn Ser Glu Asn Asn Lys Met Ile Gly Leu 210 Glu Ser Leu Arg Glu Leu Arg His Leu Lys Ile Leu His Val Lys Ser 230 Asn Leu Thr Lys Val Pro Ser Asn Ile Thr Asp Val Ala Pro His Leu 245 Thr Lys Leu Val Ile His Asn Asp Gly Thr Lys Leu Leu Val Leu Asn 265 260 Ser Leu Lys Lys Met Met Asn Val Ala Glu Leu Glu Leu Gln Asn Cys Glu Leu Glu Arg Ile Pro His Ala Ile Phe Ser Leu Ser Asn Leu Gln 295 290 Glu Leu Asp Leu Lys Ser Asn Asn Ile Arg Thr Ile Glu Glu Ile Ile 310 Ser Phe Gln His Leu Lys Arg Leu Thr Cys Leu Lys Leu Trp His Asn 325 Lys Ile Val Thr Ile Pro Pro Ser Ile Thr His Val Lys Asn Leu Glu 345 Ser Leu Tyr Phe Ser Asn Asn Lys Leu Glu Ser Leu Pro Val Ala Val 360 Phe Ser Leu Gln Lys Leu Arg Cys Leu Asp Val Ser Tyr Asn Asn Ile 375 Ser Met Ile Pro Ile Glu Ile Gly Leu Leu Gln Asn Leu Gln His Leu 390 His Ile Thr Gly Asn Lys Val Asp Ile Leu Pro Lys Gln Leu Phe Lys 410 Cys Ile Lys Leu Arg Thr Leu Asn Leu Gly Gln Asn Cys Ile Thr Ser 425

Met Leu Lys Lys Ser Gly Leu Val Val Glu Asp His Leu Phe Asp Thr

Lys Gly Asn Cys Leu Asp Arg Leu Pro Ala Gln Leu Gly Gln Cys Arg

455

Leu Pro Glu Lys Val Gly Gln Leu Ser Gln Leu Thr Gln Leu Glu Leu

480

470 465 Len Fro Leu Glu Val Lys Glu Ala Leu Asn Gln Asp Ile Asn Ile Pro 490 485 Phe Ala Asn Gly Ile 500 <..10> 186 <.111> 21 <212> DNA <213> Artificial Sequence <220> <223 > Description of Artificial Sequence: Synthetic oligonucleotide probe <400> 186 21 coteceteta ttacceatgt c <210> 187 <211> 24 <212> DNA <213> Artificial Sequence <223> Description of Artificial Sequence: Synthetic oligonucleotide probe .400> 187 24 gaccaacttt ctctgggagt gagg -_10> 188 <211> 47 <112> DNA >213> Artificial Sequence <.220> *123 > Description of Artificial Sequence: Synthetic oligonucleotide probe utcactttat ttetetaaca acaagetega ateettaeca gtggeag 47 ...10> 189 .111> 2917 ...12> DNA .313> Homo sapiens eccaegogte eggeettete tetggaettt geatttecat teettteat tgacaaactg 60 .400 > 189 actititita titlettitit tecatetetg ggecagetig ggateetagg eegeeetggg 120 aagacatttg tgttttacac acataaggat ctgtgtttgg ggtttcttct tcctcccctg 180 acattggcat tgcttagtgg ttgtgtgggg agggagacca cgtgggctca gtgcttgctt 240 geacttatet gedtaggtad ategaagtet titgaeetee atacagtgat tatqeetgte 300 atogotggtg gtatootgge ggoottgete etgetgatag ttgtegtget etqtetttae 360 tteapproxaatae acaaegeget aaaagetgea aaggaaeetg aagetgtgge tgtaaaaaaat 42pproxcacaacccag acaaggtgtg gtgggccaag aacagccagg ccaaaaccat tgccacggag 480 tettgteetg eeetgeagtg etgtgaagga tatagaatgt gtgeeagttt tgatteeetg 540 cdaeettiget gttgegaeat aaatgaggge etetgagtta ggaaaggete eetteteaaa 600 gcaqagoodt gaagacttda atgatgtdaa tgaggddadd tgtttgtgat gtgdaggdad 660 agaagaaagg cacageteee cateagttte atggaaaata acteagtgee tgetgggaae 720 cagetgetgg agatecetae agagagette caetggggge aaceetteea ggaaggagtt 780 ggggagagag aacceteact gtggggaatg etgataaace agteacaeag etgetetatt 840 ctcacacaaa tctacccctt gcgtggctgg aactgacgtt tccctggagg tgtccagaaa 900 getgatgtaa cacagageet ataaaagetg teggteetta aggetgeeca gegeettgee 960 aaaatggage ttgtaagaag geteatgeea ttgaeeetet taattetete etgtttggeg 1020 gagetgaesa tggeggagge tgaaqgeaat geaagetgea eagteagtet aqggggtgee 1080 aatulggcag agaeccacaa agecatgate etgeaactea ateccaglga gaactgcaec 1140 tggacaatag aaagaccaga aaacaaaagc atcagaatta tetttteeta tgtecagett 1200 gatecagatg gaagetgtga aagtgaaaac attaaagtet ttgaeggaac etceagcaat 1260 gggddtdtgd tagggdaagt dtgdagtaaa aacgadtatg ttddtgtatt tgaatdatda 1320 tecagtacat tgacgtttca aatagttact gactcagcaa gaattcaaag aactgtettt 1380 gtottetaet acttettete tectaacate tetatteeaa actgtggegg ttacetggat 1440 accttggaag gatectteac cageeccaat tacceaaage egeateetga getggettat 1500 tgtgtgtggc acatacaagt ggagaaagat tacaagataa aactaaactt caaagagatt 1560 ttoctagaaa tagacaaaca gtgcaaattt gattttcttg ccatctatga tggcccctcc 1620 accaactetg geetgattgg acaagtetgt ggeegtgtga eteceaeett egaategtea 1680 teaaaetete tgaetgtegt gttgtetaea gattatgeea attettaeeg gggattttet 1740 gettectaca ecteaattta tgeagaaaac ateaacaeta eatetttaac ttgetettet 1800 ganaggatga gagttattat aagcaaatoo tacctagagg ettttaacte taatgggaat 1860 aasttgsaas taaaagasse aasttgsaga scaaaattat saaatgttgt ggaattttst 1900 gtocctotta atggatgtgg tacaatdaga aaggtagaag atdagtdaat tacttadado 1980 autataatca cettttetge atecteaact tetgaagtga teaceegtea gaaacaacte 2040 cagattattg tgaagtgtga aatgggacat aattctacag tggagataat atacataaca 2100 gaagatgatg taatacaaag tcaaaatgca ctgggcaaat ataacaccag catggctctt 2160 tttgaatora attoatttga aaagactata ottgaatoac catattatgt ggatttgaac 2220 caaactettt ttgttcaagt tagtetgeac aceteagate caaatttggt ggtgtttett 2280 gahadetgta gageetetee caectetgae tittgeatete caacetaega ectaateaag 1340 agtggatgta gtogagatga aacttgtaag gtgtateeet tatttggaca etatgggaga 2400 trocagitta atgoctitaa attotigaga agiatgagoi olgigiatoi goagigiaaa 2460 gttttgatat gtgatagdag tgaddaddag totogotgda atdaaggttg tgtotooaga 1520 agcaaacgag acatttette atataaatgg aaaacagatt ceateatagg acceattegt 2580 ctgaaaaggg atcgaagtgc aagtggcaat tcaggatttc agcatgaaac acatgcggaa 2640 gaaactecaa accageettt caacagtgtg catetgtttt cetteatggt tetagetetg 2700 aatgtggtga ctgtagegac aatcacagtg aggeattttg taaatcaaeg ggeagactae 2760 amataddaga agetgeagaa etattaaeta acaggteeaa eeetaagtga gacatgttte 1920 tocaggatgo caaaggaaat gotacotogt ggotacacat attatgaata aatgaggaag 1880 gucctgaaag tgacacacag geetgeatgt aaaaaaa

<210> 190

<211> 607

<212> PET

^{3213 →} Homo sapiens

Met Glu Leu Val Arg Arg Leu Met Pro Leu Thr Leu Leu Ile Leu Ser Cys Leu Ala Glu Leu Thr Met Ala Glu Ala Glu Gly Asn Ala Ser Cys Thr Val Ser Leu Gly Gly Ala Asn Met Ala Glu Thr His Lys Ala Met Ile Leu Gln Leu Asn Pro Ser Glu Asn Cys Thr Trp Thr Ile Glu Arg 50 Pro Glu Asn Lys Ser Ile Arg Ile Ile Phe Ser Tyr Val Gln Leu Asp 70 Pro Asp Gly Ser Cys Glu Ser Glu Asn Ile Lys Val Phe Asp Gly Thr Ser Ser Asn Gly Pro Leu Leu Gly Gln Val Cys Ser Lys Asn Asp Tyr 100 Val Pro Val Phe Glu Ser Ser Ser Ser Thr Leu Thr Phe Gln Ile Val 115 Thr Asp Ser Ala Arg Ile Gln Arg Thr Val Phe Val Phe Tyr Tyr Phe 135 130 Phe Ser Pro Asn Ile Ser Ile Pro Asn Cys Gly Gly Tyr Leu Asp Thr 150 Leu Glu Gly Ser Phe Thr Ser Pro Asn Tyr Pro Lys Pro His Pro Glu 165 Leu Ala Tyr Cys Val Trp His Ile Gln Val Glu Lys Asp Tyr Lys Ile 185 Lys Leu Asn Phe Lys Glu Ile Phe Leu Glu Ile Asp Lys Gln Cys Lys 200 Phe Asp Phe Leu Ala Ile Tyr Asp Gly Pro Ser Thr Asn Ser Gly Leu 215 Ile Gly Gln Val Cys Gly Arg Val Thr Pro Thr Phe Glu Ser Ser 230 Asn Ser Leu Thr Val Val Leu Ser Thr Asp Tyr Ala Asn Ser Tyr Arg 250 245 Gly Phe Ser Ala Ser Tyr Thr Ser Ile Tyr Ala Glu Asn Ile Asn Thr 265 Thr Ser Leu Thr Cys Ser Ser Asp Arg Met Arg Val Ile Ile Ser Lys 280 275

Ser Tyr Leu Glu Ala Phe Asn Ser Asn Gly Asn Asn Leu Gln Leu Lys 295 Asp Pro Thr Cys Arg Pro Lys Leu Ser Asn Val Val Glu Phe Ser Val 315 310 305 Pro Leu Asn Gly Cys Gly Thr Ile Arg Lys Val Glu Asp Gln Ser Ile 330 Thr Tyr Thr Asn Ile Ile Thr Phe Ser Ala Ser Ser Thr Ser Glu Val 345 Ile Thr Arg Gln Lys Gln Leu Gln Ile Ile Val Lys Cys Glu Met Gly 360 His Asn Ser Thr Val Glu Ile Ile Tyr Ile Thr Glu Asp Asp Val Ile 375 Gln Ser Gln Asn Ala Leu Gly Lys Tyr Asn Thr Ser Met Ala Leu Phe 385 Glu Ser Asn Ser Phe Glu Lys Thr Ile Leu Glu Ser Pro Tyr Tyr Val 410 Asp Leu Asn Gln Thr Leu Phe Val Gln Val Ser Leu His Thr Ser Asp 425 420 Pro Asn Leu Val Val Phe Leu Asp Thr Cys Arg Ala Ser Pro Thr Ser 440 Asp Phe Ala Ser Pro Thr Tyr Asp Leu Ile Lys Ser Gly Cys Ser Arg 455 Asp Glu Thr Cys Lys Val Tyr Pro Leu Phe Gly His Tyr Gly Arg Phe 470 465 Gln Phe Asn Ala Phe Lys Phe Leu Arg Ser Met Ser Ser Val Tyr Leu 490 485 Gln Cys Lys Val Leu Ile Cys Asp Ser Ser Asp His Gln Ser Arg Cys 500 Asn Gln Gly Cys Val Ser Arg Ser Lys Arg Asp Ile Ser Ser Tyr Lys 520 Trp Lys Thr Asp Ser Ile Ile Gly Pro Ile Arg Leu Lys Arg Asp Arg 530 Ser Ala Ser Gly Asn Ser Gly Phe Gln His Glu Thr His Ala Glu Glu 550 545 Thr Pro Asn Gln Pro Phe Asn Ser Val His Leu Phe Ser Phe Met Val

575 570 565 Leu Ala Leu Asn Val Val Thr Val Ala Thr Ile Thr Val Arg His Phe 585 580 Val Asn Gln Arg Ala Asp Tyr Lys Tyr Gln Lys Leu Gln Asn Tyr 600 <210 > 191 <311 > 21 <..12 > DNA <213> Artificial Sequence <120> <2003 > Description of Artificial Sequence: Synthetic oligonucleotide probe <400 > 191 21 tototattoo aaactgtggc g <210> 192 <211> 22 <212> DNA <213> Artificial Sequence <220> <223> Description of Artificial Sequence: Synthetic oligonucleotide probe <400> 192 22 tiltgatgadg attogaaggt gg <110> 193 <111> 47 <_12> DNA <213> Artificial Sequence <.u3> Description of Artificial Sequence: Synthetic oligonucleotide probe granggates tteaceages coanttaces anageegeat cetgage 47 <210> 194 +111> 2362 -313> DNA ~_113> Homo sapiens <400> 194 dacqgaagaa cagogotooc gaggoogogg qagootgcag agaggacago oggootgogo 60 egggacatgs ggseccagga getseccagg stogogtton egttgetget gttgetgttg 120 etgetgetge egeegeegee gtgeeetgee cacagegeea egegettega ecceaeetgg 180

```
gagtodotgg acgeoogoda gotgooogog togtttoadd aggeoaagtt eggealette 240
atocactggg gagtgittic cgtqcccagc tinqqtagcg agtqqttctq gtggtattgg 300
caaaaggaaa agataccgaa gtatgtggaa tftatgaaag ataattaccc tcctagtttc 300
aaatatgaag attitiggade actatitada geadaattit tiaatgodaa eeagtigggea 41.0
gatattttte aggeetetgg tqeeaaatac attqtettaa etteeaaaca teatgaagge 430
tttaccttgt gggggtcaga atattcgtgg aactggaatg ccatagatga ggggcccaag 540
agggacattg teaaggaact tgaggtagee attaggaaca gaactgacct gegttttgga 600
ctgtactatt cectititga atggtttcat degetettee ttgaggatga atccagttca 660
ttocataago ggcaatttoo agittotaag acattgooag agototatga gttagtgaac 730
aactatcage etgaggttet gtggteggat ggtgaeggag gageaeegga teaataetgg 780
aacagcacag gcttettgge etggttatat aatgaaagee cagttegggg cacagtagte 840
accaatgate gttggggage tggtageate tgtaageatg gtggetteta tacetgeagt 900
gategttata acceaggaca tettttgcca cataaatggg aaaactgcat gacaatagac 960
aaactgtoot gyggotatag gagggaagot ggaatototg actatottac aattgaagaa 1000
ttggtgaag: aacttgtaga gacagtttca tgtggaggaa atcttttgat gaatattggg 1080
cocacactag atggcaccat ttotgtaqtt tttgaggage gaetgaggea agtggggtee 1140
tggctaagag tcaatggaga agctatttat gaaacctata cotggcgatc ccagaatgac 1200
actgtcaccc cagatgtgtg gtacacatcc aagcctaaag aaaaattagt ctatgccatt 1360
tttettaaat ggeeeacate aggaeagetg tteettggee ateceaaage tattetgggg 1320
gcaacagagg tgaaactact gggccatgga cagccactta actggatttc tttggagcaa 1380
aatggcatta tggtagaact gccacagcta accattcatc agatgccgtg taaatggggc 1440
tgggctctag ccctaactaa tgtgatctaa agtgcagcag agtggctgat gctgcaagtt 1500
atgictaagg ctaggaacta tcaggigtet ataattgiag cacatggaga aagcaatgta 1560
aactggataa gaaaattatt tggcagttca gccctttccc tttttcccac taaatttttc 1620
ttaaattadd catgtaadda tittaadtdi ddagtgdadt tigddattaa agidtdiida 1680
cattgatttg tttccatgtg tgactcagag gtgagaattt tttcacatta tagtagcaag 1740
gaattggtgg tattatggac cgaactgaaa attttatgtt gaagecatat cccccatgat 1800
 tatatagtta tgcatcactt aatatgggga tattttctgg gaaatgcatt gctagtcaat 1860
 tttttttttgt godaadatoa tagagtgtat ttadaaaato otagatggda tagodtadta 1920
 cacacctast gigiatggia tagacigity cicciagget acagacatat acagcatgii 1980
 antgaatant gtaggcaata gtaacagtgg tasttgtata togaaanata tggaaadata 2040
 gagaaggtac agtaaaaata ctgtaaaata aatggtgcac ctgtataggg cacttaccac 2100
 gaatggaget tacaggactg gaagttgete tgggtgagte agtgagtgaa tgtgaaggee 2160
 taggadatta tigaadadig odagadgita tagatadigi algollaggo tadadladat 2220
 ttataaaaaa aagtttttet ttetteaatt ataaattaac ataagtgtac tgtaacttta 3280
 caaacgtttt aatttttaaa acctttttgg etettttgta ataacactta gettaaaaca 2340
 taaactcatt gtgcaaatgt aa
 <..10> 195
 <211> 467
 < 112 > PFT
 <213> Homo sapiens
 <400> 195
 Met Arg Pro Gln Glu Leu Pro Arg Leu Ala Fhe Pro Leu Leu Leu
  1
 Leu Leu Leu Leu Pro Pro Pro Pro Cys Pro Ala His Ser Ala Thr
              20
 Arg Phe Asp Fro Thr Trp Glu Ser Leu Asp Ala Arg Gln Leu Pro Ala
```

3 =

	50						55	Gly				-						
65						70		Glu			, 5							
					85			Glu		50								
			1 (00				Gly	105									
		115	5					Ile 120										
	130						135											
145	i i					150					10.	_					Asp 160	
					165					1/(,							
			1	180					To-	,							Leu	
		19	5					200	J								Lys	
	21	0					21	5				_					ı Val	
22	5					23	0				2-	, ,					n Ser 240	
					245	5				د ک								
				260)				20	5							s Gly	
		2	75					28	S U								u Pro	
	2 9	90					23	35									y Tyr	
3	05					3.	10					1.0					eu Val 320	
L	ys G	ln I	leu	Va	.1 Gl	.u T	hr V	al S	er C	ys G 3	ly 9 30	sly .	Asn	Let	ı Le	eu Mo 3	et Asn 35	

Ile Gly		340					J 1 2								
Leu Arg	Gln 355	Val	Gly	Ser	Trp	Leu 360	Lys	Val	Asn	Gly	Glu 365	Ala	Ile	Туг	
Glu Thr 370					3/5										
Trp Tyr 385				390											
Lys Trp			405					1 1							
Leu Gly		420					123								
Trp Ile	Ser 435		Glu	gln	ı Asn	Gly 440	, Ile	e Met	. Val	Glu	1 Let 445	Pro	Gln	Leu	
Thi Ile		: Glr	n Met	: Pro	Cys 455	Lys	Tr	o Gly	rrı,	Ala 460	a Lei	ı Ala	a Lei	ı Thr	
Asn Val 465 <210> 1 <211> 1 <212> 1 <213> 2	196 23 DNA		al S	eque	nce										
<220><223>	Desc olig	ript onuc	ion leot	of A	rtif prob	icia e	.1 Se	equen	.ce:	Synt	heti	.C			
<400> tagttt	196 :gabo	: agg	gecaa	agtt	cgg										23
<pre> 210> 211> 212> 213></pre>	24 DNA	ific:	ial :	Seque	ence										
. 120> . 123>	Descolig	crip gonu	tion cleo	of tide	Arti pro	fici be	al S	eque	nce:	Syn	thet	ic			
400> ggatt	197 catc	c tc	aagg	aaga	. gcg	ıg									24
-:210>	198														

```
<\!211, -24
<212 - DNA
<213 - Artificial Sequence
<220 %
<0.13 Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400: 198
                                                                   24
aacttqdagd atdagddadt dtgd
<210> 199
<211> 45
<212> DNA
<1.13 > Artificial Sequence
< 220 >
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 199
                                                                   45
ttdcgtgddd agetteggta gegagtggtt etggtggtat tggda
<210> 200
<211> 2372
 < 11.> DNA
 <213> Homo sapiens
 .400> 200
 agcagggaaa teeggatgte teggttatga agtggageag tgagtgtgag eeteaacata 60
 gttocagaac totocatoog gactagttat tgagcatotg cototoatat caccagtggo 120
 catetgaggt gittedetgg etetgaaggg giaggeaega iggeeaggig eticageeig 180
 qtgttgette teacttecat etggaecaeg aggeteetgg tecaaggete titgegtgea 240
 gaagagottt ccatccaggt gtcatgcaga attatgggga tcacccttgt gagcaaaaag 300
 qegaaceage agetgaattt cacagaaget aaggaggeet gtaggetget gggactaagt 360
 ttggccggca aggaccaagt tgaaacagcc ttgaaagcta gctttgaaac ttgcagctat 420
 ggctgggttg gagatggatt cgtggtcatc tctaggatta gcccaaaccc caagtgtggg 480
 aaaaatgggg tgggtgtcct gatttggaag gttccagtga gccgacagtt tgcagcctat 540
 tgttacaact catcigatac tiggactaac tegigcatic cagaaattat caccaccaaa 600
 gateceatat teaacaetea aaetgeaaca caaacaacag aatttattgt cagtgacagt 660
 acctactegg tggcatecce ttactetaca atacetgece etactactac tecteetget 720
 ccagottoca ottotattoc acggagaaaa aaattgattt gtgtcacaga agtttttatg 780
 gaaactagea ecatgictae agaaactgaa ecattigiig aaaataaage agcattcaag 840
 aatgaagetg etgggtttgg aggtgteece aeggetetge tagtgettge teteetette 900
 tttggtgstg cagetggtet tggattttge tatgteaaaa ggtatgtgaa ggeetteeet 960
 tttacaaaca agaatcagca gaaggaaatg atcgaaacca aagtagtaaa ggaggagaag 1020
 genaatgata geaaccetaa tgaggaatea aagaaaaetg ataaaaacee agaagagtee 1080
 aagagtocaa gcaaaactac cgtgcgatgc ctggaagetg aagtttagat gagacagaaa 1140
 tgaggagada cacctgagge tggtttettt catgeteett accetgeece agetggggaa 1200
 atcaaaaggg ccaaagaacc aaagaagaaa gtccaccctt ggttcctaac tggaatcagc 1260
 teaggastge cattggacta tggagtgeac caaagagaat geeettetee ttattgtaac 1320
 congretgga tectatecte etacetecaa agetteccae ggeettteta geetggetat 1380
 gthotaataa tatoocactg ggagaaagga gttttgcaaa gtgcaaggac dtaaaacatc 1440
```

tdatdagtat ddagtggtaa aaaggddtad tggdtgtdig aggdtaggtg gyttgaaagd 1500 caaggagtea etgagaeeaa ggetttetet aetgatteeg eageteagae eetttettea 1560 getetgaaag agaaacaegt ateccacetg acatgteett etgageeegg taagageaaa 1620 agaatggeag aaaagtttag ceeetgaaag eeatggagat teteataaet tgagaeetaa 1680 tetetgtaaa getaaaataa agaaatagaa caaggetgag gataegacag tacactgtea 1740 gcagggactg taaacacaga cagggtcaaa gtgttttete tgaacacatt gagttggaat 1800 cactgittag aacacacaca citactitti ciggieteta ccactgoiga tattitetet 1800 aggaaatata ottttacaag taacaaaaat aaaaactott ataaatttot atttttatot 1920 gagttacaga aatgattact aaggaagatt actcagtaat ttgtttaaaa agtaataaaa 1980 ttcaacaaac atttgctgaa tagctactat atgtcaagtg ctgtgcaagg tattacactc 2040 tgtaattgaa tattatteet caaaaaattg cacataytag aacgetatet gggaagetat 2100 tittttcagt titgatattt ctagettate taettecaaa etaattitta titttgetga 2160 gactaatett atteattite tetaatatgg caaccattat aacettaatt tattattaac 2220 atacctaaga agtacattgt tacctctata taccaaagca cattttaaaa gtgccattaa 2280 caaatgtate actageeete ettttteeaa caagaaggga etgagagatg cagaaatatt 3340 tgtgacaaaa aattaaagca tttagaaaac tt <110> 201 <111> 322 <112> PRT <213> Artificial sequence <120> <323> Synthetic protein <400> 201 Met Ala Arg Cys Phe Ser Leu Val Leu Leu Leu Thr Ser Ile Trp Thr 1.0 Thr Arg Leu Leu Val Gln Gly Ser Leu Arg Ala Glu Glu Leu Ser Ile 25 20 Gln Val Ser Cys Arg Ile Met Gly Ile Thr Leu Val Ser Lys Lys Ala 40 35 Asn Gln Gln Leu Asn Phe Thr Glu Ala Lys Glu Ala Cys Arg Leu Leu 55 Gly Leu Ser Leu Ala Gly Lys Asp Gln Val Glu Thr Ala Leu Lys Ala 65 Ser Phe Glu Thr Cys Ser Tyr Gly Trp Val Gly Asp Gly Phe Val Val 90 Ile Ser Arg Ile Ser Pro Asn Pro Lys Cys Gly Lys Asn Gly Val Gly 100 Val Leu Ile Trp Lys Val Pro Val Ser Arg Gln Phe Ala Ala Tyr Cys 115 Tyr Asn Ser Ser Asp Thr Trp Thr Asn Ser Cys Ile Pro Glu Ile Ile 140

135

Thr Thr Lys Asp Pro Ile Phe Asn Thr Gin Thr Ala Thr Gin Thr Thr 150 Glu Phe Ile Val Ser Asp Ser Thr Tyr Ser Val Ala Ser Pro Tyr Ser 170 165 Thr Ile Pro Ala Pro Thr Thr Pro Pro Ala Pro Ala Ser Thr Ser 180 Ile Pro Arg Arg Lys Lys Leu Ile Cys Val Thr Glu Val Phe Met Glu 200 Thr Ser Thr Met Ser Thr Glu Thr Glu Pro Phe Val Glu Asn Lys Ala 215 Ala Phe Lys Asn Glu Ala Ala Gly Phe Gly Gly Val Pro Thr Ala Leu 230 Leu Val Leu Ala Leu Leu Phe Phe Gly Ala Ala Gly Leu Gly Phe 245 Cys Tyr Val Lys Arg Tyr Val Lys Ala Phe Pro Phe Thr Asn Lys Asn Gln Gln Lys Glu Met Ile Glu Thr Lys Val Val Lys Glu Glu Lys Ala 280 Asn Asp Ser Asn Pro Asn Glu Glu Ser Lys Lys Thr Asp Lys Asn Pro 295 290 Glu Glu Ser Lys Ser Pro Ser Lys Thr Thr Val Arg Cys Leu Glu Ala 310 305 Glu Val <210> 202 <211> 24 <012> DNA <213> Artificial Sequence < _20> <23> Description of Artificial Sequence: Synthetic oligonucleotide probe <400> 202 24 gagettteca tecaggtgte atge <110> 203 <211> 22 <312> DNA <213> Artificial Sequence

```
<22005
<21: Description of Artificial Sequence: Synthetic
      oligonucleotide probe
                                                                     22
<40: - 203
gtmagtgada gtaddtadtd gg
<210 - 204
<211> 24
<211 > DNA
<213 > Artificial Sequence
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
<400> 204
                                                                      24
tggagcagga ggagtagtag tagg
<210> 205
<211> 50
<212> DNA
 <213> Artificial Sequence
 <223> Description of Artificial Sequence: Synthetic
 <220>
       oligonucleotide probe
                                                                      50
 aggaggedtg taggetgetg ggaetaagtt tggeeggeaa ggaecaagtt
 .400> 205
 <110> 206
 <211> 1620
 < 2.12 > DIJA
 <213> Homo sapiens
 < 220>
 <221> modified_base
  <202> (973)
  <223> a, t, c or g
  ×210>
  >221> modified_base
  CL12> (977)
  .2235 a, t, c or g
  · . . . : 0 >
  <:221> modified_base
  <222> (996)
  .223 > a, t, c or g
  . 2.70 >
  <221> modified base
```

```
<222> (1003)
<223> a, t, c or g
agatggeggt ettggeacet etaattgete tegtgtatte ggtgeegega ettteacgat 60
ggotogocca accttactac ettetgtogg coetgetete tgetgeotte etactogtga 120
ggaaactgec geegetetge caeggtetge ceacceaaeg egaagaeggt aaccegtgtg 180
actitigactg gagagaagtg gagateetga tgttteteag tgeeattgtg atgatgaaga 240
accgcagate cateaetgtg gageaacata taggcaacat tttcatgttt agtaaagtgg 300
deaddadaat tettttette egettggata ttegeatggg cetaetttae ateacactet 360
gcatagtgtt octgatgacg tgcaaacccc ccctatatat gygccctgag tatatcaagt 420
acttcaatga taaaaccatt gatgaggaac tagaacggga caagagggtc acttggattg 480
tggagttett tgecaattgg tetaatgaet gecaateatt tgeceetate tatgetgaee 540
tetecettaa atacaactgt acagggetaa attttgggaa ggtggatgtt ggacgetata 600
ctgatgttag Lacgeggtae aaagtgagea eateaceeet caccaageaa etecetaeee 660
tgatectytt ccaaggtgge aaggaggeaa tgeqgeggee acagattgae,aagaaaggae 720
gggetgtete atggaeette tetgaggaga atgtgateeg agaalitaae ttaaatgage 780
tataccagog ggocaagaaa ctatcaaagg otggagacaa tatccotgag gagcagootg 840
tggcttcaac ccccaccaca gtgtcagatg gggaaaacaa gaaggataaa taagatcctc 900
actttggcag tgcttcctct cctgtcaatt ccaggetett tccataacca caagcetgag 960
getgeageet ttnattnatg ttttcccttt ggetgngact ggntggggca geatgeaget 1020
totgatttta aagaggoato tagggaattg toaggoacco tacaggaagg cotgocatgo 1080
tgtggccaac tgtttcactg gagcaagaaa gagatctcat aggacggagg gggaaatggt 1140
 ttocotocaa gettgggtea gtgtgttaac tgettateag etatteagae atetecatgg 1200
 tttctccatg aaactctgtg gtttcatcat tecttettag ttgacctgca cagettggtt 1260
 agacctagat ttaaccctaa ggtaagatgc tggggtatag aacgctaaga attttccccc 1320
 aaggadtett getteettaa geeettetyg ettegtttat ggtetteatt aaaagtataa 1380
 gectaaettt gtegetagte etaaggagaa aeetttaaee acaaagtttt tateattgaa 1440
 gacaatattg aacaaccccc tattttgtgg ggattgagaa ggggtgaata gaggcttgag 1500
 actitioetti gigiggiagg astiggagga gaaateedet ggastiteas taadeeteig 1560
 acatactece cacacceagt tgatggettt eegtaataaa aagattggga ttteettttg 1620
 <210> 207
 <211> .:96
 <212> PRT
 <213> Homo sapiens
 Met Ala Val Leu Ala Pro Leu Ile Ala Leu Val Tyr Ser Val Pro Arg
 <400> 207
                                       10
 Leu Ser Arg Trp Leu Ala Gln Pro Tyr Tyr Leu Leu Ser Ala Leu Leu
  Ser Ala Ala Phe Leu Leu Val Arg Lys Leu Pro Pro Leu Cys His Gly
                               4.0
           35
  Leu Pio Thr Gln Arg Glu Asp Gly Asn Pro Cys Asp Phe Asp Trp Arg
       50
  Glu Val Glu Ile Leu Met Phe Leu Ser Ala Ile Val Met Met Lys Asn
```

7.0

Ang Ang Ser Ile Thi Val Glu Glu His Ile Gly Asn Ile Phe Met Phe 85

Ser Lys Val Ala Asn Thr Ile Led Pho Phe Arg Leu Asp Ile Arg Met

Gly Leu Leu Tyr Ile Thr Leu Cys Ile Val Phe Leu Met Thr Cys Lys 120 115

Pro Pro Leu Tyr Met Gly Pro Glu Tyr Ile Lys Tyr Phe Asn Asp Lys 135 130

Thr Ile Asp Glu Glu Leu Glu Arg Asp Lys Arg Val Thr Trp Ile Val 150

Glu Phe Phe Ala Asn Trp Ser Asn Asp Cys Gln Ser Phe Ala Pro Ile

Tyr Ala Asp Leu Ser Leu Lys Tyr Asn Cys Thr Gly Leu Asn Phe Gly

Lys Val Asp Val Gly Arg Tyr Thr Asp Val Ser Thr Arg Tyr Lys Val 195

Ser Thr Ser Pro Leu Thr Lys Gln Leu Pro Thr Leu Ile Leu Phe Gln 215

Gly Gly Lys Glu Ala Met Arg Arg Pro Gln Ile Asp Lys Lys Gly Arg 225

Ala Val Ser Trp Thr Phe Ser Glu Glu Asn Val Ile Arg Glu Phe Asn

Leu Asn Glu Leu Tyr Gln Arg Ala Lys Lys Leu Ser Lys Ala Gly Asp

Asn lle Pro Glu Glu Gln Pro Val Ala Ser Thr Pro Thr Thr Val Ser 275

Asp Gly Glu Asn Lys Lys Asp Lys 290

<210> 208

<211>24

<1.12 - DNA

<1.13 Artificial Sequence

<223> Description of Artificial Sequence: Synthetic < 320 cligonucleotide probe

<400 > 208 gottggatat togoatgggo otad

```
<2.10> 209
<2.11> 20
<1112> INA
<1.13> Artificial Sequence
<.... (ID)
ROLLS Description of Artificial Sequence: Synthetic
      oligonucleotide probe
                                                                     20
<460 > 209
tgqaqadaat atccctgagg
<210> 210
<211\times~34
<112> DNA
<213> Artificial Sequence
 <223> Description of Artificial Sequence: Synthetic
       oligonucleotide probe
 .400> 210
                                                                     24
 aanagttage cacageatgg cagg
 .210> 211
 - 211s 50
 7.312 × DNA
 ·:13> Artificial Sequence
 . <u>1</u>20>
 +223> Description of Artificial Sequence: Synthetic
       oligonucleotide probe
  400> 211
                                                                      50
  emattgatga ggaactagaa egggacaaga gggteacttg gattgtggag
  .210 > 1.12
  .211> 1985
  1.12 > 10 MA
  ...135 Homo sapiens
  ugadagetog eggecedega gagetetage egtegaggag etgeetgggg aegtttgeed 60
  ragaggeneda geotggedeg ggteaccetg geatgaggag atgggeetgt tgeteetggt 120
  constructe objections gotoctacgy actgocotto tacaacggot totactacte 180
  maadagogod aacgaddaga addtaggdaa dggtdatggo aaagaddtdd ttaatggagt 240
  daagstigtt gtggagadad ddgaggagad ddfgttdado taddaagggg ddagtgtgat 300
  edtgeeetge egetadeget acgageegge detggteted degeggegtg tgegtgteaa 360
  atggtggaag ctgtcggaga acggggcccc agagaaggac gtgctggtgg ccatcgggct 420
  daggeaeege teetttgggg actaccaagg cegegtgeae etgeggeagg acaaagagea 480
  gasgtsteg stggagatee aggatetgeg getggaggas tatgggegtt acegetqtga 540
  ggtcattgac gggctggagg atgaaagcgg tetggtggag ctggagctge ggggtgtggt 600
```

```
ctttecttac cagtececca aegggegeta ecagtteaac ttecaegagg gecageaggt 660
ctgtgdagag caggetgdgg tggtggddtc etttgagdag etcttddggg eetgggagga720
gggsstygas tygtgsaasg syggstygst geaggatyst acgytysagt accesateat 780
gttgendegg caqeeutgeg gtggedeagg detggeadet ggegtgegaa getaeggede 840
cogodacego egectgeace getatgatgt attetgette getactgeed teaaqqqqqey 900
ggtgtactac ctggagcacc ctgagaagct gacgctgaca gaggcaaggg aggcetgcca 960
ggaagatgat gccacgateg ccaaggtggg acagetettt geegeetgga agttecatgg 1020
cetggacege tgegaegetg getggetgge agatggeage gteegetace etgtggttea 1080
eccgcatect aactgtggge ecccagagee tggggteega agetttgget teeccgaeee 1140
gcagageege ttgtaeggtg tttaetgeta eegeeageae taggaeetgg ggeeeteeee 1200
tgccgcattc cctcactggc tgtgtattta ttgagtggtt cgttttccct tgtgggttgg 1260
agccatttta actgttttta tacttctcaa tttaaatttt ctttaaacat ttttttacta 1320
ttttttgtaa agcaaacaga acccaatgcc tccctttgct cctggatgcc ccactccagg 1380
aatcatgett geteeeetgg gecatttgeg gttttgtggg ettetggagg gtteeeegee 1440
atdcaggetg gtotecetec ettaaggagg ttggtgccca gagtgggcgg tggcctgtet 1500
agaatgoogo ogggagtoog ggcatggtgg gcacagttot cootgoocot cagootgggg 1560
gaagaagagg geeteggygg eeteeggage tgggetttgg geeteteetg eedaceteta 1520
cttctctgtg aagccgctga ccccagtctg cccactgagg ggctagggct ggaagccagt 1680
 tetaggette caggegaaat etgagggaag gaagaaacte eeeteeeegt teecetteee 1740
 ctctcggttc caaagaatct gttttgttgt catttgtttc tcctgtttcc ctgtgtgggg 1800
 aggggccctc aggtgtgtgt actttggaca ataaatggtg ctatgactgc cttccgccaa 1860
 aaaaa
 <1110> 213
 <211> 260
 <212> PRT
 <213> Homo sapiens
 Met Gly Leu Leu Leu Val Pro Leu Leu Leu Pro Gly Ser Tyr
                   5
  Gly Leu Pro Phe Tyr Asn Gly Phe Tyr Tyr Ser Asn Ser Ala Asn Asp
              20
  Gln Asn Leu Gly Asn Gly His Gly Lys Asp Leu Leu Asn Gly Val Lys
                              40
  Leu Val Val Glu Thr Pro Glu Glu Thr Leu Phe Thr Tyr Gln Gly Ala
       50
  Ser Val Ile Leu Pro Cys Arg Tyr Arg Tyr Glu Pro Ala Leu Val Ser
  Pro Arg Arg Val Arg Val Lys Trp Trp Lys Leu Ser Glu Asn Gly Ala
   Pro Glu Lys Asp Val Leu Val Ala Ile Gly Leu Arg His Arg Ser Phe
                                 105
              100
   Gly Asp Tyr Gln Gly Arg Val His Leu Arg Gln Asp Lys Glu His Asp
```

125 120 115 Val Ser Leu Glu Ile Gln Asp Leu Arg Leu Glu Asp Tyr Gly Arg Tyr 135 Arg Cys Glu Val Ile Asp Gly Leu Glu Asp Glu Ser Gly Leu Val Glu 150 Leu Glu Leu Arg Gly Val Val Phe Pro Tyr Gln Ser Pro Asn Gly Arg Tyr Gln Phe Asn Phe His Glu Gly Gln Gln Val Cys Ala Glu Gln Ala 180 Ala Val Val Ala Ser Phe Glu Gln Leu Phe Arg Ala Trp Glu Glu Gly Leu Asp Trp Cys Asn Ala Gly Trp Leu Gln Asp Ala Thr Val Gln Tyr 215 210 Pro Ile Met Leu Pro Arg Gln Pro Cys Gly Gly Pro Gly Leu Ala Pro 230 Gly Val Arg Ser Tyr Gly Pro Arg His Arg Arg Leu His Arg Tyr Asp Val Phe Cys Phe Ala Thr Ala Leu Lys Gly Arg Val Tyr Tyr Leu Glu 260 His Pro Glu Lys Leu Thr Leu Thr Glu Ala Arg Glu Ala Cys Gln Glu Asp Asp Ala Thr Ile Ala Lys Val Gly Gln Leu Phe Ala Ala Trp Lys 295 Phe His Gly Leu Asp Arg Cys Asp Ala Gly Trp Leu Ala Asp Gly Ser 310 Val Arg Tyr Pro Val Val His Pro His Pro Asn Cys Gly Pro Pro Glu Pro Gly Val Arg Ser Phe Gly Phe Pro Asp Pro Gln Ser Arg Leu Tyr 340 Gly Val Tyr Cys Tyr Arg Gln His <210> 214 <111> 18 <212> DNA <213> Artificial Sequence <220>

<223 Description of Artificial Sequence: Synthetic oligonucleotide probe	
<400 \ 214 tgcttcgcta ctgccctc	18
<pre><210 > 215 <211 > 18 <212 > DNA <213 > Artificial Sequence</pre>	
<pre><2230 > <223 > Description of Artificial Sequence: Synthetic oligonucleotide probe</pre>	
<pre><400> 215 ttcccttgtg ggttggag</pre>	18
<210> 216 <211> 18 <212> DNA <213> Artificial Sequence	
<pre><220> <2203> Description of Artificial Sequence: Synthetic</pre>	18
2400 - 215 agggetggaa gecagtte	10
<pre>colo > 217 colo > 18 colo > DNA colo > Artificial Sequence</pre>	
<pre><pre><pre><pre><pre><pre><pre><pre></pre></pre></pre></pre></pre></pre></pre></pre>	
agccagtgag gaaatgcg	18
.110> 218 .H1> 24 .H2> DNA .H3: Artificial Sequence	
<pre><2200> <2223 > Description of Artificial Sequence: Synthetic oligonucleotide probe</pre>	
<pre>*400> 218 tgtccaaagt acadacct gagg</pre>	24

```
<210> 219
<2115 45
<212 . DNA
<113 - Artificial Sequence
<J23> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
                                                                45
gatgccacga tegecaaggt gggacagete tttgccgcet ggaag
<400> 219
<210 > 220
<211> 1503
 <212> DNA
 <213> Homo sapiens
 ggagagegga gegaagetgg ataacagggg acegatgatg tggegaccat cagttetget 60
 gettetgttg etaetgagge aeggggeeca ggggaageea teeccagaeg eaggecetea 120
 tggccagggg agggtgcacc aggcggcccc cctgagcgac gctccccatg atgacgccca 180
 egggaactte cagtacgace atgaggettt cetgggaegg gaagtggeea aggaattega 240
 ccaactcace ccagaggaaa gccaggcccg tetggggcgg atcgtggace gcatggaccg 300
 egegggggae ggegaegget gggtgteget ggeegagett egegegtgga tegegeadae 360
 gcagcagcgg cacatacggg acteggtgag egeggeetgg gacacgtacg acaeggaceg 420
 egaegggegt gtgggttggg aggagetgeg caaegecaee tatggecaet aegegeeegg 490
 tgaagaattt catgacgtgg agqatgcaga gacctacaaa aagatgctgg ctcgggacga 540
 geggegttte egggtggeeg accaggatgg ggactegatg gecactegag aggagetgan 600
 agretteetg cacceegagg agtteeetea catgegggae ategtgattg etgaaaceet 660
 ggaggaeetg gacagaaaca aagatggeta tgtecaggtg gaggagtaca tegeggatet 720
 gtactcagcc gagectgggg aggaggagcc ggegtgggtg cagacggaga ggcagcagtt 780
  ccqgqacttc cgggatctga acaaggatgg gcacctggat gggagtgagg tgggccactg 840
  ggtgctgccc cctgcccagg accagccct ggtggaagcc aaccacctgc tgcacgagag 900
  cgacacggac aaggatggge ggctgagcaa ageggaaate etgggtaatt ggaacatgtt 960
  tgtgggcagt caggccacea actatggcga ggaectgace eggcaceaeg atgagetgtg 1020
  aguadogogo acotgodada godtoagagg odogoadaat gaboggagga gggqoogotg 1080
  tggtotggoo costocotgt coaggooog caggaggoag atgoagtooc aggoatoote 1140
  etgeceetgg geteteaggg accedetggg teggettetg teeetgteac accedeaace 1200
  dcagggaggg gctgtcatag tcccagagga taagcaatac ctatttctga ctgagtctcc 1260
  cagoccagao ocagggaedo tiggodocaa gotcagotot aagaadogoo ccaadogoto 1320
  cagotocaaa totgagooto caccacatag actgaaacto cootggeeec ageestetee 1380
  tgcctggcct ggcctgggac acctectete tgccaggagg caataaaagc cagcgccggq 1440
  ааа
   <210> 221
   <211 > 328
   <212> PRT
   <213> Homo sapiens
   Met Met Trp Arg Pro Ser Val Leu Leu Leu Leu Leu Leu Leu Arg His
```

	5	10	15
l Gly Ala Gln Gl		Pic Asp Ala Gly 25	Pro His Gly Gln Gly 30
		Leu Ser Asp Ala 40	Pro His Asp Asp Ala 45
50	,	3	Leu Gly Arg Glu Val 60
65	70		Ser Gln Ala Arg Leu 80
	85		Asp Gly Asp Gly Trp 95
Val Ser Leu A	Ala Glu Leu Ar 100	ng Ala Trp Ile Ala 105	His Thr Gln Gln Arg 110
His Ile Arg A	Asp Ser Val Se	er Ala Ala Trp Asp 120	Thr Tyr Asp Thr Asp 125
130	Τ.	33	g Asn Ala Thr Tyr Gly 140
145	150		
	165	<u> </u>	g Phe Arg Val Ala Asp 175
	180	133	u Leu Thr Ala Phe Leu 190
195		200	e Val Ile Ala Glu Thr. 205
Leu Glu Asp 210	Leu Asp Arg	Asn Lys Asp Gly Ty 215	yr Val Gln Val Glu Glu 220
Tyr 1le Ala 225	Asp Leu Tyr 230	Ser Ala Glu Pro G 2	ly Glu Glu Glu Pro Ala 240
	Thr Glu Arg	Gln Gln Phe Arg A 250	sp Phe Arg Asp Leu Asn 255
Lys Asp Gly	His Leu Asp	Gly Ser Glu Val G 265	lly His Trp Val Leu Pro 270
Pro Ala Gli 27	n Asp Gln Pro	Leu Val Glu Ala A	Asn His Leu Leu His Glu 285

```
Ser Asp Thi Asp Lys Asp Gly Ard Leu Ser Lys Ala Glu Ile Lou Gly
                        295
    290
Asi. Trp Asn Met Phe Val Gly Ser Gli Ala Thr Asn Tyr Gly Glu Asp
                    310
Led Thr Arg His His Asp Glu Leu
                325
<010> 223
<211> 20
<111> DNA
<213> Artificial Sequence
< . >> Description of Artificial Sequence: Synthetic
      oligonucleotide probe
                                                                   20
 <400> 222
 egeaggeest catggeeagg
 <210> 223
 <211> 19
 <212 > DNA
 <213> Artificial Sequence
 .323> Description of Artificial Sequence: Synthetic
       cligonucleotide probe
                                                                    18
 .400> 223
 qaaatchigg gtaattgg
 <210> 224
  <1.11> 23
  <212> DNA
  </p
  4,2205
  +223> Description of Artificial Sequence: Synthetic
        oligonucleotide probe
                                                                    23
  . 400 - 204
  Higggrigtg ofcacagete atc
  . 210 - 235
  ..11> 44
  -212> DNA
  <213> Artificial Sequence
   <223> Description of Artificial Sequence: Synthetic
         oligonucleotide probe
```

<4005 225 44 condectgag egacgeteec ceatgatgae geccaeggga aett <2:10> 226 <1115 2403 $<\!\!1112>~DWA$ <213 · Homo sapiens gggggcettge etteegeact egggegeage egggtggate tegageaggt geggageeee 60 gggeggeggg egegggtgeg agggatedet gaegeetetg teeetgttte titgtegete 120 ceagedtigte tgtegtegtt ttggegeede egecteedeg eggtgegggg ttgcacadeg 180 atootgaget tegetegatt tgeegeegag gegeeteeca gaeetagagg ggegetggee 240 tggagdagog ggtogtelgt gtddtdtbtd dtdtgegddg eqeddgggga teegaagggt 300 ouggggetet gaggaggtga egegeggge etecegeace etggeettge eegeattete 360 cetetetede aggigigage agestateag teaccatgic egeageetgg aleeeggets 429 teggeetegg tgtgtgtetg etgetgetge eggggeeege gggeagegag ggageegete 480 ccattgetat cacatgitti accagagget tggacateag gaaagagaaa geagatgice 540 totgoocagg gggctgooct ottgaggaat tototgtgta tgggaacata gtatatgott 600 ctgtatcgag catatgtggg gctgctgtcc acaggggagt aatcagcaac tcagggggac 660 ctgtacqagt ctatagecta ectggtegag aaaactatte etcagtagat gecaatggea 720 todagtotoa aatgotttot agatggtotg ottotttoac agtaactaaa ggcaaaagta 780 gtadanagga ggodadagga daagdagtgt ddadagdada tddaddaada ggtadadgad 840 taaagaaaac acccgagaag aaaactggca ataaagattg taaagcagac attgcatttc 900 tgattqatgg aagetttaat attgggcage geegatttaa tttacagaag aattttgttg 960 gaaaaqtggc totaatgttg ggaattggaa cagaaggacc acatgtgggc ottgttcaag 1020 congrigados teccadadas gaatttaet tgadadaett tacateagee adagatgttt 1080 tytttyssat aaaggaagta gytttsagag gyggtaatts saatasagga aaagssttga 1140 agdatadtgo tdagaaatto ttdacqgtag atgotggagt aagaaaaggg atodocaaag 1.:00 tggtggtggt atttattgat ggttggodtt otgatgadat ogaggaagda ggdattgtgg 1560 deagagagtt tggtgteaat gtatttatag tttetgtgge caageetate eetgaagaae 1320 tggggatggt tdaggatgtd acatttgttg adaaggetgt etgteggaat aatggettet 1/80 totottacca catgoccaac tggtttggca ccacaaaata cgtaaagcct ctggtacaga 1440 agetgtgcac teatgaacaa atgatgtgca gcaagacetg ttataactca gtgaacattg 1500 cotttotaat tgatggotoc ageagtgttg gagatagcaa tttoogooto atgottgaat 1560 ttgtttccaa catagecaag acttttgaaa teteggacat tggtgecaag atagetgetg 1620 tacaqtttac ttatgatcag cgcacggagt tcagtttcac tgactatagc accaaagaga 1680 atgteetage tgteateaga aacateeget atatgagtgg tggaacaget aetggtgatg 1740 ccatttcctt cactgttaga aatgtgtttg gccctataag ggagagcccc aacaagaact 1900 tectagtaat tgtcacagat gggcagtect atgatgatgt ccaaggeest gcagetgetg 1860 cadatgatgo aggaatoact atottototg tiggtgtggo tigggoadot diggatgaco 1920 tgaaaqatat ggottotaaa oogaaqgagt otoacgottt ottoacaaga gaqttoacag 1980 gattagaacc aattgittet gatgicaica gaggeattig tagagattic tiagaateec 2040 agdamtaatg gtaacatttt gacaantgaa agaaaaagta caaggggatc cagtgtgtaa 1100 attgtattet cataataetg aaatgettta geataetaga ateagataea aaaetattaa 2160 gtatqtoaac agocatttag gcaaataagc actootttaa agocgotgoo ttotggttac 1120 aatttacagt gtactttgtt aaaaacactg ctgaggette ataateatgg etettagaaa 2280 ctcaqgaaag aggagataat gtggattaaa accttaagag ttctaaccat gcctactaaa .340 tgtabagata tgcaaattoo atagotoaat aaaagaatot gataottaga ocaaaaaaaa 2400 ааа

a211> 550

<212> PRT

<213> Homo sapiens

Met Ser Ala Ala Trp Ile Pro Ala Leu Gly Leu Gly Val Cys Leu Leu

Leu Leu Pro Gly Pro Ala Gly Ser Glu Gly Ala Ala Pro Ile Ala Ile

Thr Cys Phe Thr Arg Gly Leu Asp Ile Arg Lys Glu Lys Ala Asp Val

Leu Cys Pro Gly Gly Cys Pro Leu Glu Glu Phe Ser Val Tyr Gly Asn

Ile Val Tyr Ala Ser Val Ser Ser Ile Cys Gly Ala Ala Val His Arg

Gly Val Ile Ser Asn Ser Gly Gly Pro Val Arg Val Tyr Ser Leu Pro

Gly Arg Glu Asn Tyr Ser Ser Val Asp Ala Asn Gly Ile Gln Ser Gln 105

Met Leu Ser Arg Trp Ser Ala Ser Phe Thr Val Thr Lys Gly Lys Ser 120

Ser Thr Gln Glu Ala Thr Gly Gln Ala Val Ser Thr Ala His Pro Pro 135

Thr Gly Lys Arg Leu Lys Lys Thr Pro Glu Lys Lys Thr Gly Asn Lys 150 145

Asp Cys Lys Ala Asp Ile Ala Phe Leu Ile Asp Gly Ser Phe Asn Ile 170

Gly Gln Arg Arg Phe Asn Leu Gln Lys Asn Phe Val Gly Lys Val Ala

Leu Met Leu Gly Ile Gly Thr Glu Gly Fro His Val Gly Leu Val Gln

Ala Ser Glu His Pro Lys Ile Glu Phe Tyr Leu Lys Asn Phe Thr Ser 215

Ala Lys Asp Val Leu Phe Ala Ile Lys Glu Val Gly Fhe Arg Gly Gly 235 230 225

Asn Ser Asn Thr Gly Lys Ala Leu Lys His Thr Ala Gln Lys Phe Phe 250 245

Thr Val Asp Ala Gly Val Arg Lys Gly Ile Pro Lys Val Val Val 265 Phe Ile Asp Gly Trp Fro Ser Asp Asp Ile Glu Glu Ala Gly Ile Val 280 Ala Arg Glu Phe Gly Val Asn Val Phe Ile Val Ser Val Ala Lys Pro 295 290 Ile Pro Glu Glu Leu Gly Met Val Gln Asp Val Thr Phe Val Asp Lys 315 310 Ala Val Cys Arg Asn Asn Gly Phe Phe Ser Tyr His Met Pro Asn Trp 330 325 Phe Gly Thr Thr Lys Tyr Val Lys Pro Leu Val Gln Lys Leu Cys Thr 345 His Glu Gln Met Met Cys Ser Lys Thr Cys Tyr Asn Ser Val Asn Ile 360 Ala Phe Leu Ile Asp Gly Ser Ser Ser Val Gly Asp Ser Asn Phe Arg 375 Leu Met Leu Glu Phe Val Ser Asn Ile Ala Lys Thr Phe Glu Ile Ser Asp Ile Gly Ala Lys Ile Ala Ala Val Gln Phe Thr Tyr Asp Gln Arg 410 405 Thr Glu Phe Ser Fhe Thr Asp Tyr Ser Thr Lys Glu Asn Val Leu Ala 425 420 Val Ile Arg Asn Ile Arg Tyr Met Ser Gly Gly Thr Ala Thr Gly Asp 440 Ala Ile Ser Phe Thr Val Arg Asn Val Phe Gly Pro Ile Arg Glu Ser 455 450 Pro Asn Lys Asn Phe Leu Val Ile Val Thr Asp Gly Gln Ser Tyr Asp 475 Asp Val Gln Gly Pro Ala Ala Ala Ala His Asp Ala Gly Ile Thr Ile 485 Phe Ser Val Gly Val Ala Trp Ala Pro Leu Asp Asp Leu Lys Asp Met Ala Ser Lys Pro Lys Glu Ser His Ala Phe Phe Thr Arg Glu Phe Thr 520 Gly Leu Glu Pro Ile Val Ser Asp Val Ile Arg Gly Ile Cys Arg Asp 535

```
Pho Leu Glu Ser Gln Gln
545
<2100 228
<111> 18
<110% DNA
<2132 Artificial Sequence
<223> Description of Artificial Sequence: Synthetic
<4100
      oligonucleotide probe
<400> 128
                                                                     18
tygtotogra caccgate
<210 > 229
<211> 18
<212 > DNA
<213> Artificial Sequence
 <:223> Description of Artificial Sequence: Synthetic
       oligonucleotide probe
                                                                      18
 .400> 229
 stactgtcca caggggag
 .210> 220
 211 > 18
 <_12> DNA
 all3> Artificial Sequence
 < 2.20 >
 0223> Description of Artificial Sequence: Synthetic
        oligonucleotide probe
  <400> 230
                                                                      18
 contiguagea tactgete
  .110> 231
  ._11.5 18
  . 125 DNA
  ...13> Artificial Sequence
  ...0
  ...3 - Description of Artificial Sequence: Synthetic
        oligonucleotide probe
                                                                       18
  .400 - 231
  gagatajcaa tttccgcc
```

₹210 - 232

```
<211> 18
<212> DNA
<113> Artificial Sequence
<11.10.
<223> Description of Artificial Sequence: Synthetic
              cligonuclectide probe
<400 > 232
                                                                                                                                                                18
thedtcaaga gggcagcc
 <210> 233
 <111> 24
 <212> DNA
 <113> Artificial Sequence
 <1110>
 <223> Description of Artificial Sequence: Synthetic
                oligonucleotide probe
 <400> 233
                                                                                                                                                                  24
 cttggcacca atgtccgaga tttc
  <210> 234
  <211> 45
  <212> DNA
  <213> Artificial Sequence
  <220>
   <223> Description of Artificial Sequence: Synthetic
                 oligonucleotide probe
   <400> 234
                                                                                                                                                                   45
   getetgagga aggtgaegeg eggggeetee gaaccettgg eettg
   <210> 235
   <211> 2586
    <212> DNA
    >213> Homo sapiens
    \phi_{	ext{4}} degree degree decodes a considered considered to consider the constant of the c
    <400> 235
    coggoggant conggoggga gogagoagat coagtoogge nogoagogea antoggtoca 11.0
    gtoggggggg oggetgeggg ogdagagegg agatgeageg gettgggggc accettgetyt 180
    quetgatgat ggaggaggag gtadaaagg cadaaggae egataagaag gagaaatagg 240
    ctccagtcaa goooggooog gototcagot accogoagga ggaggocaco otcaatgaga 300
    tgttccgcga qgttgaggaa ctgatggagg acacgcagca caaattgcgc agcgcggtgg 340
    aagagatgga ggcagaagaa qetgetgeta aagcateate agaagtgaac etggcaaact 430
    tacctcccag ctatcacaat gagaccaaca cagacacgaa ggttggaaat aataccatcc 480
    atgtgcaccg agaaattcac aagataacca acaaccagac tggacaaatg gtcttttcag 540
    agadagttat dadatetgtg ggagacgaag aaggdagaag gagddacgag tgdatdateg 500
    Abgaggastg tgggdddagd atgtactgdd agtttgddag cttddagtad addtgddagd 660
    catgoogggg coagaggatg ctetgcacco gggacagtga gtgctgtgga gaccagctgt 720
```

```
gtgtotgggg toactgcacc aaaatggcca ccaggggcag caatgggace atotgtgaca 780
accagaggga ctgccagccg gggctgtgct qtgccttcca gagaggcctq ctqttccctq 84)
tgtgcacace cotgecogtg gagggcgage tttgccatga coccgecage cggcttctgg 900
adestications of gggagotal gagoof gatig gagoof tiggal dequipment tigtiged agtig 900
gentectety coageocoan ageoacaged tygtqtatgt gtgcaageog accttogtgg 1000
ggageogtga ccaagatggg gagateetge tgeecagaga ggteecegat gagtatgaag 1000
ttiggdagett datggaggag gtgdgddagg agdtggagga ddtggagagg agddtgadtg 1140
aagagatgge getgggggag eetgeggetg eegeegetge aetgetggga ggggaagaga 1.00
tttagatotg gaccaggotg tgggtagatg tgcaatagaa atagctaatt tatttcccca 1.60
ggtgtgtgct ttaggegtgg getgaeeagg ettetteeta eatettette eeagtaagtt 1/30
teccetetgg ettgacagea tgaggtgttg tgeatttgtt cageteccec aggetgttet 1.80
ccaggettea cagtetggtg ettgggagag teaggeaggg ttaaactgea ggageagttt 1440
gocaccectg tocagattat tggctgcttt gcctctacca gttggcagac agccgtttgt 1500
totacatgge tittgataatt gittgagggg aggagatgga aacaatgigg agiotoocte 1560
tgattggttt tggggaaatg tggagaagag tgccctgctt tgcaaacatc aacctggcaa 1020
aaatgcaaca aatgaatttt ccacgcagtt ctttccatgg gcataggtaa gctgtgcctt 1680
cagetyttge agatyaaaty ttetytteae eetgeattae atytyttat teateeagea 1740
gtgttgetca geteetaeet etgtgeeagg geageatttt catateeaag ateaatteee 1800
teteteagea cageetgggg agggggteat tgtteteete gteeateagg gateteagag 1860
geteagagae tgeaagetge ttgeecaagt cacacageta gtgaagaeca gageagttte 1920
atetggttgt gactetaage teagtgetet etecaetace ecaeceage ettggtgeca 1980
ccaaaagtgc teeccaaaag gaaggagaat gggatttttc ttgaggcatg cacatetgga 2040
attaaggtca aactaattct cacatecete taaaagtaaa etaetgttag gaacagcagt 2100
gttctcacag tgtggggcag ccgtccttct aatgaagaca atgatattga cactgtccct 2160
ctttggcagt tgcattagta actttgaaag gtatatgact gagcgtagca tacaggttaa 2220
cctgcagaaa cagtacttag gtaattgtag ggcgaggatt ataaatgaaa tttgcaaaat .: 280
cacttagoag caactgaaga caattatcaa ccacgtggag aaaatcaaac cgagcagggc 2340
tgtgtgaaac atggttgtaa tatgcgactg cgaacactga actctacgcc actccacaaa 2400
tgatgttttc aggtgtcatg gactgttgcc accatgtatt catecagagt tottaaagtt 1400
 taaagttgca catgattgta taagcatgct ttetttgagt tttaaattat gtataaasat ..520
 aaaaaa
 <210> 236
 <311> 350
 <212> PRT
 <213> Homo sapiens
 <400> 236
 Met Gln Arg Leu Gly Ala Thr Leu Leu Cys Leu Leu Leu Ala Ala Ala
   1
 Val Pro Thr Ala Pro Ala Pro Ala Pro Thr Ala Thr Ser Ala Pro Val
                                  25
              20
 Lys Pro Gly Pro Ala Leu Ser Tyr Pro Gln Glu Glu Ala Thr Leu Asn
 Glu Met Phe Arg Glu Val Glu Glu Leu Met Glu Asp Thr Gln His Lys
```

Leu Arg Ser Ala Val Glu Glu Met Glu Ala Glu Glu Ala Ala Ala Lys

70

Ala Ser Ser Gl	u Val Ası 85	Leu Ala	a Asn L	eu Pro 90	Pio Ser	Tyr His Asn 95
Glu Thr Asn Th	ir Asp Th	c Lys Va	1 Gly A 105	Asn Asn	Thr Ile	His Val His 110
Arg Glu Ile H	s Lys Il	e Thr As	n Asn (Gln Thr	Gly Gln 125	Met Val Phe
Ser Glu Thr Va	al Ile Th	r Ser Va 135	ıl Gly A	Asp Glu	Glu Gly 140	Arg Arg Ser
His Glu Cys I	le Ile As 15	p Glu As O	sp Cys (Gly Pro 155	Ser Met	Tyr Cys Gln 160
Phe Ala Ser P	he Gln Ty 165	r Thr Cy	ys Gln	Pro Cys 170	Arg Gly	Gln Arg Met 175
Leu Cys Thr A	rg Asp Se 80	er Glu Cy	ys Cys 185	Gly Asp	Gln Let	n Cys Val Trp 190
Gly His Cys T 195	hr Lys M	et Ala Ti 2	hr Arg	Gly Ser	Asn Gly 209	y Thr Ile Cys
Asp Asn Gln F	arg Asp C	ys Gln P 215	ro Gly	Leu Cys	Cys Ala 220	a Phe Gln Arg
Gly Leu Leu I 225	Phe Pro V 2	al Cys T 30	hr Pro	Leu Pro 235	Val Gl	u Gly Glu Leu 240
Cys His Asp	Pro Ala S 245	er Arg L	leu Leu	Asp Leu 250	ı Ile Th	r Trp Glu Leu 255
Glu Pro Asp	Gly Ala I 260	eu Asp A	Arg Cys 265	Pro Cys	ala Se	r Gly Leu Leu 270
Cys Gln Pro 275	His Ser H	Mis Ser I	Leu Val 280	Tyr Val	l Cys Ly 28	s Pro Thr Phe
Val Gly Ser 290	Arg Asp (ln Asp (295	Gly Glu	lle Le	u Leu Pi 300	co Arg Glu Val
Pro Asp Glu 305	Tyr Glu	Val Gly 8	Ser Phe	e Met Gl 31	u Glu Vo 5	al Arg Gln Glu 320
	Leu Glu . 325	Arg Ser	Leu Thi	Glu Gl 330	u Met A	la Leu Gly Glu 335
Pro Ala Ala	Ala Ala 340	Ala Ala	Leu Leu 34	ı Gly Gl 5	y Glu G	lu Ile 350

<211 - 17 <211. DNA <11 - Artificial Sequence	
<pre><pre><pre><pre><pre><pre><pre><pre></pre></pre></pre></pre></pre></pre></pre></pre>	
<400> 237 qqaqetqead edettge	17
<pre><210 > 238 <211 > 49 <212 > DNA <213 > Artificial Sequence</pre>	
<pre><220> <12:> Synthetic Oligonucleotide Probe</pre>	
<400> 238 ggaggaetgt gecaecatga gagaetette aaacecaagg caaaattgg	49
<210> 239 <211> 24 <212> DNA <213> Artificial Sequence	
<pre></pre>	
.400> .339 qqagayqgga gatgdagogg ottg	24
<pre>k210> U40 kU11> 18 kU12> DNA kU13> Artificial Sequence</pre>	
<pre><220> <pre><pre><pre><pre><pre><pre><pre><pre></pre></pre></pre></pre></pre></pre></pre></pre></pre>	
<pre>~400> 240 ttggqagctt catggagg</pre>	18
<pre>%210> 241 %211> 18 %212> DNA %213> Artificial Sequence</pre>	
<pre><u20> <u23> Synthetic Oligonucleotide Probe</u23></u20></pre>	
-400> 241 Untigggbaaa aatgcaac	16

```
<\!210 \times 242
<211 → 24
<2125 DNA
<213. Artificial Sequence
<2.205
«123» Synthetic Oligonucleotide Probe
<400 > 242
                                                                     24
ctodayeted tggegeaeet eete
<110 > 243
<211> 45
< 1.13 > DMA
<213> Artificial Sequence
< 120 >
<223> Synthetic Oligonucleotide Probe
<400> 243
                                                                     45
 ageteteage tacegogoag gagegaggee acceteaatg agatg
<210> 244
 <211> 3679
 <212> DNA
 <213> Homo Sapien
 .4(0) 244
 aaygaqqotg ggaggaaaga ggtaagaaag gttagagaac ctacctcaca 50
  tetetetetggg etcagaagga etetgaagat aacaataatt teageeeate 100
  cactotoctt coctoccaaa cacacatgtg catgtacaca cacacataca 150
  cacacataca cetteetete etteactgaa gaeteacagt caeteactet 200
  gtgagnaggt catagaaaag gacactaaag cettaaggae aggeetggen 250
  attacetotg cagetoettt ggettgttga gteaaaaaac atgggagggg 300
  diagghacgg tgactdadad etgtaatedd agcattttgg gagaddgagg 350
  tyagcagate acttgaggte aggagttega gaccageetg gecaacatgg 400
   agaaaccccc atctctacta aaaatacaaa aattagccag gagtggtggc 450
   aggtgeetgt aateccaget aeteaggtgg etgagecagg agaategett 500
   gaatooagga ggoggaggat goagtoagot gagtgoacog otgoactoca 550
   godtgggtga dagaatgaga dtotgtotoa aacaaadaaa dacgggagga 600
```

ggggtagata digditetet geaadeleet taadietgea teeletieti 650 deaqqqdtgc coctgatqqq goctqqcaat gactqaqcaq qcccaqcdcc 700 agaqgacaag gaaqagaagg catattgagg agggcaagaa gtgacgcccg 750 gtgtagaatg actgeectgy gagggtggtt cettgggeec tggeagggtt 800 getgaecett accetgeaaa acacaaagag caggaeteea gaeteteett 850 gtgaatggte ecctgeeetg cagetecace atgaggette tegtggseee 900 actettgeta gettgggtgg etggtgecae tgccaetgtg ecegtggtae 950 cotggoatgt tecotgocco octoaqtgtg cotgocagat coggocotgg 1000 tatacgcccc getegtecta eegegagget accaetgtyg actgcaatga 1050 cetatteetg aeggeagtee eeeeggeact eeeegeagge acacagaeee 1100 tgctcctgca gagcaacagc attgtccgtg tggaccagag tgagctgggc 1150 tacetggeea ateteacaga getggaeetg teecagaaca gettttegga 1200 tgcccgagac tgtgatttcc atgccctgcc ccagctgctg agcctgcacc 1250 tagaggagaa ccagctgaec cggctggagg accacagett tgcagggctg 1300 godagodtad aggaacteta totoaaddad aaddagdtot addgditegd 1350 coccagggee tittetggee teagcaactt getgeggetg caceteaact 1400 ccaaceteet gagggeeatt gacageeget ggtttgaaat getgeecaae 1450 ttggagatac tcatgattgg cggcaacaag gtagatgcca tcctggacat 1500 gaactteegg eeeetggeea acetgegtag eetggtgeta geaggeatga 1550 acctgcggga qatctccgac tatgccctgg aggggctgca aagcctggag 1600 ageeteteet tetatgadaa eeagetggee egggtgeeda ggegggeadt 1650 ggaadaggtg deegggutda agttoutaga detdaadaag aaddrgdtdd 1700 agegggtagg geegggggae tittgeeaaea tgetgeaeet taaggagetg 1750 qqactgaaca acatggagga gctggtctcc atcgacaagt ttgccctggt 1800 gaacctcccc gagctgacca agctggacat caccaataac ccacggctgt 1850 cetteateca ecceegage ttecaccace tgacccagat ggagaccete 1900 atgeteaaca acaaegetet cagtgeettg caccageaga eggtggagte 1950 detgeedaae etgeaggagg taggteteda eggeaacede atdegetgtg 2000 actytytoat cegetydydd aatychaegy geachegtyt cegetteate 2050 gageegeaat ceaecetgtg tgeggageet eeggacetee agegeeteec 21:10 ggteegtgag gtgeeettee gggagatgae ggaeeactgt ttgeeectea 2150 totococaeg aagettoodo ocaaqootoo aggtagooag tggagagago 2000 atggtgctgc attgccgggc actggccgaa cccgaacccg agatctactg 2250 ggtcactcca getgggcttc gactgacacc tgcccatgca ggcaggaggt 2300 acegggtgta ceccgagggg accetgqage tgcggagggt gacagcagaa 2:50 gaggcagggc tatacacctg tgtggcccag aacctggtgg gggctgacac 2400 taagacggtt agtgtggttg tgggccgtgc tctcctccag ccaggcaggg 2450 acgaaggaca ggggctggag etcegggtge aggagaceca cecetateac 2500 atomtgotat ettgggtmac eccaeceaac acagtgteca ccaaceteac 2550 ctggtccagt gcctcctccc tccggggcca gggggccaca gctctggccc 2600 geotypotog gggaadddac agotadaada ttadddgddt dottdaggdd 1650 acggagtact gggcctgcct gcaagtggcc tttgctgatg cccacaccca 2700 gttggcttgt gtatgggcca ggaccaaaga ggccacttct tgccacagag 2750 cettagggga tegteetggg eteattgeea teetggetet egetgteett _800 ctectggeag etgggetage ggescaeett ggeacaggee aacceaggaa 1850 gggtgtgggt gggaggegge etetedetee ageetggget ttetgggget 1900 ggagtgdddd theigiadgg gilgiglaig aladddiagi ddigdddigg 2950 aateeaggga gqaagetqee dagateetea gaaggggaga cactgttgee 3000 accattgict caaaattett gaageteage eigiteteag cagtagagaa 3050 atcactagga ctacttttta ccaaaagaga agcagtctgg gccagatgcc 3100 ctgccaggaa agggacatgg acccacgtgc ttgaggcctg gcagctgggc 3150 caagacagat ggggctttgt ggccctgggg gtgcttctgc agccttgaaa 3200 aagttgeeet taeeteetag ggteaentet getgeeatte tgaggaaeat 3250 ctecaaggaa caggagggae tttggetaga geeteelgee teeccatett 3300 ctototgood agaggeteet gggeetgget tggetgtood etaeetgtqt 3350 econgggetg caccontten tettetetit ethtgtadag tetdagttgn 3400 ttgetettgt geeteetggg eaagggetga aggaggeeae teeateteae 3450 ctcggggggc tgccctcaat gtgggagtga ccccagccag atctgaagga 3500 catttgggag agggatgeec aggaaegeet cateteagea geetgggete 3550 ggcattccga agctgacttt ctataggcaa ttttgtacct ttgtggagaa 3600 atgtyteacc tececeaacc egatteacte tittetects tittgtaaaa 3650 aataaaaaaa aataataaca ataaaaaaa 3679

<210> 245

<211> 713

<212> PRT

<213> Homo Sapien

<400> 245

Met Arg Leu Leu Val Ala Pro Leu Leu Leu Ala Trp Val Ala Gly Ala Thr Ala Thr Val Pro Val Val Pro Trp His Val Pro Cys Pro 20

Pro Gln Cys Ala Cys Gln Ile Arg Pro Trp Tyr Thr Pro Arg Ser 35

Ser Tyr Arg Glu Ala Thr Thr Val Asp Cys Asn Asp Leu Phe Leu 55

Thr Ala Val Pro Pro Ala Leu Pro Ala Gly Thr Gln Thr Leu Leu

Leu Gln Ser Asn Ser Ile Val Arg Val Asp Gln Ser Glu Leu Gly

Tyr Leu Ala Asn Leu Thr Glu Leu Asp Leu Ser Gln Asn Ser Phe 100 95

Ser Asp Ala Arg Asp Cys Asp Phe His Ala Leu Pro Gln Leu Leu 115 110

Ser Leu His Leu Glu Glu Asn Gln Leu Thr Arg Leu Glu Asp His 125

Ser Phe Ala Gly Leu Ala Ser Leu Gln Glu Leu Tyr Leu Asn His 145 140

Asn Gln Leu Tyr Arg Ile Ala Pro Arg Ala Phe Ser Gly Leu Ser 165
Asn Leu Leu Arg Leu His Leu Asn Ser Asn Leu Leu Arg Ala Ile 170 175 180
Asp Ser Arg Trp Fhe Glu Met Leu Pro Asn Leu Glu Ile Leu Met 195 190 196
Ile Gly Gly Asn Lys Val Asp Ala Ile Leu Asp Met Asn Phe Arg 200 200
Pro Leu Ala Asn Leu Arg Ser Leu Val Leu Ala Gly Met Asn Leu 115 920 225
Arg Glu Ile Ser Asp Tyr Ala Leu Glu Gly Leu Gln Ser Leu Glu 230 235
Ser Leu Ser Phe Tyr Asp Asn Gln Leu Ala Arg Val Pro Arg Arg
Ala Leu Glu Gln Val Pro Gly Leu Lys Phe Leu Asp Leu Asn Lys 260 265
Asn Pro Leu Gln Arg Val Gly Pro Gly Asp Phe Ala Asn Met Leu 285
His Leu Lys Glu Leu Gly Leu Asn Asn Met Glu Glu Leu Val Ser 290 295
Ile Asp Lys Phe Ala Leu Val Asn Leu Pro Glu Leu Thr Lys Leu 305 310
Asp Ile Thr Asn Asn Pro Arg Leu Ser Phe Ile His Pro Arg Ala 320 325
Phe His His Leu Pro Gln Met Glu Thr Leu Met Leu Asn Asn 345
Ala Leu Ser Ala Leu His Gln Gln Thr Val Glu Ser Leu Fro Asn 350 355 360
Leu Gln Glu Val Gly Leu His Gly Asn Fro Ile Arg Cys Asp Cys 375
Val Ile Arg Trp Ala Asn Ala Thr Gly Thr Arg Val Arg Phe Ile 380 385
Glu Pro Gln Ser Thr Leu Cys Ala Glu Pro Pro Asp Leu Gln Arg 395 400 405
Leu Pro Val Arg Glu Val Pro Phe Arg Glu Met Thr Asp His Cys

410 419
Leu Pro Leu Ile Ser Pro Arg Ser Phe Pro Pro Ser Leu Gln Val 435
Ala Ser Gly Glu Ser Met Val Leu His Cys Arg Ala Leu Ala Glu 450
Pro Glu Pro Glu Ile Tyr Trp Val Thr Pro Ala Gly Leu Arg Leu 465
Thr Pro Ala His Ala Gly Arg Arg Tyr Arg Val Tyr Pro Glu Gly 470 475
Thr Leu Glu Leu Arg Arg Val Thr Ala Glu Glu Ala Gly Leu Tyr 495
Thr Cys Val Ala Gln Asn Leu Val Gly Ala Asp Thr Lys Thr Val 500 505
Ser Val Val Val Gly Arg Ala Leu Leu Gln Pro Gly Arg Asp Glu 525 515
Gly Gln Gly Leu Glu Leu Arg Val Gln Glu Thr His Pro Tyr His 540
Ile Leu Leu Ser Trp Val Thr Pro Pro Asn Thr Val Ser Thr Asn 555 545
Leu Thr Trp Ser Ser Ala Ser Ser Leu Arg Gly Gln Gly Ala Thr 560 565
Ala Leu Ala Arg Leu Pro Arg Gly Thr His Ser Tyr Asn Ile Thr 585
Arg Leu Leu Gln Ala Thr Glu Tyr Trp Ala Cys Leu Gln Val Ala 590 595
Phe Ala Asp Ala His Thr Gln Leu Ala Cys Val Trp Ala Arg Thr 615
Lys Glu Ala Thr Ser Cys His Arg Ala Leu Gly Asp Arg Pro Gly 630
Leu Ile Ala Ile Leu Ala Leu Ala Val Leu Leu Leu Ala Ala Gly 645
Leu Ala Ala His Leu Gly Thr Gly Gln Fro Arg Lys Gly Val Gly 660
Gly Arg Arg Pro Leu Pro Pro Ala Trp Ala Phe Trp Gly Trp Ser 665 670

Ala Pro Ser Val Arg Val Val Ser Ala Pro Leu Val Leu Pro Trp 680 Asn Pro Gly Arg Lys Leu Pro Arg Ser Ser Glu Gly Glu Thr Leu Leu Pro Pro Leu Ser Gln Asn Ser 710 <210> 246 <211> 22 <212> DNA <213> Artificial Sequence <333> Synthetic Oligonucleotide Probe <400> 246 aacaaggtaa gatgecatee tg 22 <210> 247 <211> 24 <212> DNA <213> Artificial Sequence .223> Synthetic Oligonucleotide Probe .400> 247 amacttytog atggagacca goto 24 . _10 > 248 -211> 45 <212> DNA <213> Artificial Sequence <220> <223> Synthetic Oligonucleotide Probe aggagatgaa aagaatggag agaatataat tatatgacaa caaga 45 .400> 248 ..110> 249 ...11> 3401 -2125 DNA -213 - Homo Sapien gcaagccaag gcgctgtttg agaaggtgaa gaagttccgg acccatgtgg 50 <400 · 249 aggaggggga cattgtgtac cgcctctaca tgcggcagac catcatcaag 100 gtgatcaagt teatecteat catetgetae acceptetant acetgeacaa 150 cathaagtto gaogtggact goadcgtgga cattgagago otgaeggget 200 accycapeta degetytyce naddedetyy ccacaetett caagateety 250 gegteettet acateageet agteatette taeggeetea tetgeatgta 300 cacactgtgg tggatgctac ggcgctccct caagaagtac tcgtttgagt 350 cgatccgtga ggagagcage tacagcgaca teceegaegt caagaaegae 400 ttegeettea tgetgeacet cattgaecaa taegaeeege tetaeteeaa 450 gegettegee gtetteetgt eggaggtgag tgagaacaag etgeggeage 500 tgaaccteas caacgagteg acgetggaca ageteeggea geggeteace 550 aagaacgogo aggacaagot ggagotgoac etgttcatgo toagtggoat 600 ccctgacact gtgtttgacc tggtggagct ggaggtcctc aagctggagc 650 tgateceega egtgaeeate eegeceagea ttgeeeaget eaegggeete 700 aaggagetgt ggetetaeca cacageggee aagattgaag egeetgeget 750 ggeetteetg egegagaade tgegggeget geacateaag tteacegada 800 tcanggagat deegetgtgg atotatagee tgaagacact ggaggagetg 850 cacetgacgg geaacetgag egeggagaac aacegetaca tegteatega 900 egggetgegg gageteaaac geeteaaggt getgeggete aagageaace 950 taagcaaget gecaeaggtg gteacagatg tgggegtgea eetgeagaag 1000 etgtecatea acaatgaggg caccaagete ategteetea acageeteaa 1050 gaagatggog aaddtgadtg agdtggagdt gatddgdtgc gaddtggagd 1100 gcatceecca etecatette agectecaca acetgcagga gattgacete 1150 aaggacaada addtdaaqad datdgaggag atdatcagdt tddagdaddt 1200 geacegeete aeetgeetta agetgtggta caaceacate geetacatee 1250 ccatccagat cggcaacctc accaacctgg agegeeteta cctgaaccgc 1300 aacaagatog agaagatoce caeccagete ttetaetgee geaagetgeg 1350 ctacetggae eteagecaea acaacetgae etteeteeet geogaeateg 1400 geoteetgea gaaceteeag aacetageea teaeggeeaa eeggategag 1450 adgetecete eggaqetett edagtgeegg aagetgeggg deetgeadet 1500 gggcaadaad gtgetgcagt cactgedete cagggtgggc qagetgadda 1550 acctgacgca gatcgagctg cggggcaacc ggctggagtg cctgcctgtg 1600 gagetgggeg agtgeecaet geteaagege ageggettgg tggtggagga 1650 ggaeetgtte aacacaetge eaccegaggt gaaggagegg etgtggaggg 1700 ctgacaagga geaggeetga gegaggeegg eecagcacag caagcagcag 1750 gacegotgee cagteeteag geoeggaggg geaggeetag etteteecag 1800 aactooogga dagooaggad agootogegg otggggaagga gootggggdo 1850 gettgtgagt caggecagag egagaggaca gtatetgtgg ggetggeece 1900 ttttctccct ctgagactca cgtcccccag ggcaagtgct tgtggaggag 1950 agcaagtete aagagegeag tatttggata ateagggtet eeteeetgga 2000 ggccagctet geoccagggg etgagetgec accagaggte etgggaecet 2050 cactttagtt ettggtattt atttttetee ateteecace teetteatee 2100 agataactta tadattooda agaaagttoa goddagatgg aaggtgttoa 2150 gggaaaggtg ggstgeettt teecestigte ettatttage gatgeegeeg 1100 ggcatttaac acccacctgg acttcagcag agtggtccgg ggcgaaccag .:250 ccatgggacg gtcacccage agtgccgggc tgggctctgc ggtgcggtcc 2300 acgggagage aggectecag etggaaagge caggeetgga gettgeetet 2350 toagtttttg tggcagtttt agttttttgt ttttttttt tttaatcaaa 2400 aaadaatttt ttttaaaaaa aagdtttgaa aatggatggt ttgggtatta 2450 aaaagaaaaa aaaaacttaa aaaaaaaaaag acactaacgg ccagtgagtt 2500 ggagtotoag ggcagggtgg dagtttoodt tgagdaaagd agcdagadgt 2550 tgaactgtgt ttddtttddd tgggdgdagg gtgdagggtg tdttddggat 1600 ctggtgtgad eltggtedag gagttetatt tgttedtggg gagggaggtt 2650 tttttgtttg ttttttgggt ttttttggtg tettgtttte ttteteetee 2700 atgtgtcttg graggcactc atttctgtgg ctgtcggcca gagggaatgt 2750 tetggagetg ecaaggaggg aggagaeteg ggttggetaa teeneggatg 2800 aacggtgete cattegeace tecceteete gtgeetgeee tgeeteteea 2850 cgcacagtgt taaggagcca ayaggagcca cttrgcccag actttgtttc 2900 cocacctect geggeatggg tgtgtccagt gccaccgctg gcctccgctg 2950 cttccatcag ccctgtcgcc acctggtcct tcatgaagag cagacactta 3000 gaggetggte gggaatgggg aggtegeeee tgggagggea ggegttggtt 3050 ccaageeggt teeegteest ggegeetgga gtgcacacag cccagtegge 3100 acctggtggc tggaagccaa cctgctttag atcactcggg tccccacctt 3150 agaagggtoo cogcottaga toaatoacgt ggacactaag gcacytttta 3200 gagtetettg tettaatgat tatgteeate egtetgteeg teeatttgtg 3250 ttttctgcgt cgtgtcattg gatataatcc tcagaaataa tgcacactag 3300 cototgacaa ccatgaagca aaaatccgtt acatgtgggt ctgaacttgt 3350 a 3401

<210> 250

<211> 546

<212> PRT

<213> Homo Sapien

Met Arg Gln Thr Ile Ile Lys Val Ile Lys Phe Ile Leu Ile Ile <400> 250

Cys Tyr Thr Val Tyr Tyr Val His Asn Ile Lys Phe Asp Val Asp

Cys Thr Val Asp Ile Glu Ser Leu Thr Gly Tyr Arg Thr Tyr Arg

Cys Ala His Pro Leu Ala Thr Leu Phe Lys Ile Leu Ala Ser Phe

Tyr Ile Ser Leu Val Ile Fhe Tyr Gly Leu Ile Cys Met Tyr Thr

Leu Trp Trp Met Leu Arg Arg Ser Leu Lys Lys Tyr Ser Phe Glu

Ser Ile Arg Glu Glu Ser Ser Tyr Ser Asp Ile Pro Asp Val Lys

95	10%
Asn Asp Phe Ala Phe Met Leu His Leu Ile Asp Gln Tyr 110 115	
Leu Tyr Ser Lys Arg Phe Ala Val Phe Leu Ser Glu Val	
Asn Lys Leu Arg Gln Leu Asn Leu Asn Asn Glu Trp Thr 140 145	
Lys Leu Arg Gln Arg Leu Thr Lys Asn Ala Gln Asp Lys 160	
Leu His Leu Phe Met Leu Ser Gly Ile Pro Asp Thr Val	Phe Asp 190
Leu Val Glu Leu Glu Val Leu Lys Leu Glu Leu Ile Pro 185	
Thr Ile Pro Pro Ser Ile Ala Gln Leu Thr Gly Leu Lys	
Trp Leu Tyr His Thr Ala Ala Lys Ile Glu Ala Pro Al 215	
Phe Leu Arg Glu Asn Leu Arg Ala Leu His Ile Lys Ph 230 235	
Ile Lys Glu Ile Pro Leu Trp Ile Tyr Ser Leu Lys Th 245 250	
Glu Leu His Leu Thr Gly Asn Leu Ser Ala Glu Asn As 260	
Ile Val Ile Asp Gly Leu Arg Glu Leu Lys Arg Leu L 275	
Arg Leu Lys Ser Asn Leu Ser Lys Leu Pro Gln Val V	al Thr Asp
290 295	300
Val Gly Val His Leu Gln Lys Leu Ser Ile Asn Asn C 305	
Lys Leu Ile Val Leu Asn Ser Leu Lys Lys Met Ala <i>I</i> 320 325	
Glu Leu Glu Leu Ile Arg Cys Asp Leu Glu Arg Ile 335	
Ile Phe Ser Leu His Asn Leu Gln Glu Ile Asp Leu 350	Lys Asp Asn 360

Asn Leu Lys Thr Ile Glu Glu Ile Ile Ser Phe Gln His Leu His 375
Arg Leu Thr Cys Leu Lys Leu Trp Tyr Asn His Ile Ala Tyr Ile 380 385
Pro Ile Gln Ile Gly Asn Leu Thr Asn Leu Glu Arg Leu Tyr Leu 395 400 405
Asn Arg Asn Lys Ile Glu Lys Ile Pro Thr Gln Leu Phe Tyr Cys 410 415
Arg Lys Leu Arg Tyr Leu Asp Leu Ser His Asn Asn Leu Thr Phe 435
Leu Pro Ala Asp Ile Gly Leu Leu Gln Asn Leu Gln Asn Leu Ala 440 445 450
Ile Thr Ala Asn Arg Ile Glu Thr Leu Pro Pro Glu Leu Phe Gln 465 455
Cys Arg Lys Leu Arg Ala Leu His Leu Gly Asn Asn Val Leu Gln 470 475
Ser Leu Pro Ser Arg Val Gly Glu Leu Thr Asn Leu Thr Gln Ile 495
Glu Leu Arg Gly Asn Arg Leu Glu Cys Leu Pro Val Glu Leu Gly 505 510
Glu Cys Pro Leu Leu Lys Arg Ser Gly Leu Val Val Glu Glu Asp 525 515
Leu Phe Asn Thr Leu Pro Pro Glu Val Lys Glu Arg Leu Trp Arg 530 535
Ala Asp Lys Glu Gln Ala 545
<210> 251 <211> 20 <312> DNA <313> Artificial Sequence
<pre><320> <23> Synthetic Oligonucleotide Probe</pre>
<400> 251 caacaatgag ggcaccaagc 20
<210> 252 <211> 24

153

```
<212> DNA
<213> Artificial Sequence
<233> Synthetic Oligonucleotide Probe
<400 - 252
gatggdtagg ttdtggaggt tdtg 24
<210 > 253
<211 > 47
<212> DNA
<213 > Artificial Sequence
<120>
<223> Synthetic Oligonucleotide Probe
 <400> 253
 caacetgeag gagattgace teaaggacaa caaceteaag accateg 47
 <210> 254
 <211> 1650
 <212> DNA
 <213> Homo Sapien
 <400> 254
  gootgttget gatgetgeeg tgeggtaett gteatggage tggeaetgeg 50
  gogototodo gtocogoggt ggttgetget getgeegetg etgetgggee 100
  tgaacgcagg agctgtcatt gactggccca cagaggaggg caaggaagta 150
   tgggattatg tgacggtecg caaggatgee tacatgttet ggtggeteta 200
   ttatgccaec aacteetgca agaacttete agaactgeee etggteatgt 250
   ggetteaggg eggteeagge ggttetagea etggatttgg aaactttgag 300
   gaaattgggc coettgacag tgateteaaa eeaeggaaaa eeaeetgget 350
   ecaggetgee agteteetat ttqtggataa teeegtggge aetgggttea 400
   gstatgtgaa tggtagtggt geetatgeea aggaeetgge fatggtgget 450
   teagacatga tggtteteet gaagacette tteagttgee acaaagaatt 500
   ccagacagtt ccattetaca tttteteaga gteetatgga ggaaaaatgg 550
   cagetggeat tggtetagag etttataagg ceatteageg agggaeeate 600
    aagtgcaact ttqcgggggt tgccttgggt gattcctgga tctcccctgt 650
    tgattcggtg eletectggg gacettacet gtacageatg teletleteg 700
```

aagacaaagg totggcagag gtgtctaagg ttgcaqagca agtactgaat 750 gccgtaaata aggggctcta cagagaggcc acagagctgt qqqggaaayc 800 agaaatgato attgaacaga abacagatgg ggtgaactto tataacatot 850 taactaaaag cactcccacg tctacaatgg agtcgagtct agaattcaca 900 cagagedade tagtttgtet ttgtcagege caegtgagae acetacaaeg 950 agatgeetta agecagetea tgaatggeee cateagaaag aageteaaaa 1000 ttattoctga ggatcaatoo tggggaggoo aggotaccaa ogtotttgtg 1050 aacatggagg aggacttcat gaagccagte attagcattg tggacgagtt 1100 gctggaggca gggatcaacg tgacggtgta taatggacag ctggatctca 1150 tegtagatae eatgggteag gaggeetggg tgeggaaaet gaagtggeea 1200 gaactgoota aattcagtca gotgaagtgg aaggoootgt acagtgacco 1250 taaatettig gaaacatetg ettitgicaa gieetacaag aacetigeti 1300 tetaetggat tetgaaaget ggteatatgg tteettetga ceaaggggae 1350 auggetetga agatgatgaq actqqtgact cagcaagaat aggatggatg 1400 gygotggaga tgagotggtt tggoottggg goacagagot gagotgaggo 1450 egetgaaget gtaggaageg ecattettee etgtatetaa etggggetgt 1500 gatcaagaag gttctgacca gcttctgcag aggataaaat cattgtctct 1550 ggaggcaatt tggaaattat ttctgcttct taaaaaaacc taagattttt 1600 taaaaaattg atttgttttg atcaaaataa aggatgataa tagatattaa 1650

<..10> 255

<400> 255

<011> 452

<212 > PRT

<213 > Homo Sapien

Met Glu Leu Ala Leu Arg Arg Ser Pro Val Pro Arg Trp Leu Leu

Leu Leu Pro Leu Leu Gly Leu Asn Ala Gly Ala Val Ile Asp

Trp Pro Thr Glu Glu Gly Lys Glu Val Trp Asp Tyr Val Thr Val

Arg Lys Asp Ala Tyr Met Phe Trp Trp Leu Tyr Tyr Ala Thr Asn 50 55
Ser Cys Lys Asn Phe Ser Glu Leu Pro Leu Val Met Trp Leu Gln 65 75
Gly Gly Pro Gly Gly Ser Ser Thr Gly Phe Gly Asn Phe Glu Glu 80 85
Ile Gly Pro Leu Asp Ser Asp Leu Lys Pro Arg Lys Thr Thr Try.
Leu Gln Ala Ala Ser Leu Leu Phe Val Asp Asn Pro Val Gly Thr 110 115 120
Gly Phe Ser Tyr Val Asn Gly Ser Gly Aia Tyr Ala Lys Asp Leu 125 130 130
Ala Met Val Ala Ser Asp Met Met Val Leu Leu Lys Thr Phe Phe 140 145
Ser Cys His Lys Glu Phe Gln Thr Val Pro Phe Tyr Ile Phe Ser 165
Glu Ser Tyr Gly Gly Lys Met Ala Ala Gly Ile Gly Leu Glu Leu 170 175 180
Tyr Lys Ala Ile Gln Arg Gly Thr Ile Lys Cys Asn Phe Ala Gly 185
Val Ala Leu Gly Asp Ser Trp Ile Ser Fro Val Asp Ser Val Leu 205 210
Ser Trp Gly Pro Tyr Leu Tyr Ser Met Ser Leu Leu Glu Asp Lys 225
Gly Leu Ala Glu Val Ser Lys Val Ala Glu Gln Val Leu Asn Ala 240
Val Asn Lys Gly Leu Tyr Arg Glu Ala Thr Glu Leu Trp Gly Lys 245 250
Ala Glu Met Ile Ile Glu Gln Asn Thr Asp Gly Val Asn Phe Tyr 160 165
Asn Ile Leu Thr Lys Ser Thr Pro Thr Ser Thr Met Glu Ser Ser 275 :80
Leu Glu Phe Thr Gln Ser His Leu Val Cys Leu Cys Gln Arg His 290 295
Val Arg His Leu Gln Arg Asp Ala Leu Ser Gln Leu Met Asn Gly

	305			310					317
Pro He Arg Lys	Lys Leu 320	Lys I	le I	le Pro 325	Glu .	Asp	Gln	Ser '	Trp 330
Gly Gly Gln Ala	Thr Asn	Val F	Phe V	al Asn 340	Met	Glu	Glu	Asp	Phe 345
Met Lys Pro Val	Ile Ser	Ile V	Val A	sp Glu 355	Leu	Leu	Glu	Ala	Gly 350
Ile Asn Val Thr	Val Tyr 365	Asn (Gly G	ln Leu 370	Asp	Leu	Ile	Val	Asp 375
Thr Met Gly Gln	Glu Ala 380	Trp	Val A	rg Lys 385	Leu	Lys	Trp	Pro	Glu 390
Leu Fro Lys Phe	Ser Gln 395	Leu	Lys 7	rp Lys 400	Ala	Leu	Tyr	Ser	Asp 405
Pro Lys 3er Leu	ı Glu Thr 410	Ser	Ala l	Phe Vāl 415	Lys	Ser	Tyr	Lys	Asn 420
Leu Ala Phe Ty	r Trp Ile 425	e Leu	Lys 2	Ala Gly 430	His	Met	Val	Pro	Ser 435
Asp Gln Gly As	p Met Ala 440	a Leu	Lys	Met Met 44!	Arg	Leu	ı Val	Thr	Gln 450
Gln Glu									
<210> 256 <211> 1100 <212> DNA <213> Homo Sapi	en								
k400% 256 ggddgdggga gag	ra = cacca	taaac	:acqc	a caaaa	lagat:	g ct	getg	gcgc	5.0
tgatgatgga tag	raactaaa	ctcac	gaag	c eggaç	ıtcgc	a gg	aggc	ggcg	100
degttateag gae									
tiggagaggad gdd									
tggagaggac go	andtatdo	ggagt	tgagc	c tgct(cagco	a co	getç	ggca	250
ctcacggcgg cg	cactactt	tgaa	accta	t agtg	acctt	a gt	igato	ccctc	300
egggtggatg gt	ccastttq	gcca	gctga	c ttcc	atgco	a to	cctt	ctgga	a 350
geetgeagge et	adtacacc	cgtt	actto	g tatc	gaata	at c	tatd	tgag	c 400

cotogotado tggggaatto accotatgad attgccttgg tgaaqctgtd 450 tgcacctgtc acctacacta aacacateca gcccatctgt ctccaggcct 500 ccacatttga gtttgagaac eggacagaet getgggtgae tggetggggg 550 tacatcaaag aggatgagge actgccatct ccccacaccc tccaggaagt 600 traggtrgsc atrataaara artratgtg raarracetr ttrrtaagt 650 acagtttccg caaggacate tttggagaea tggtttgtge tggcaacgee 700 caaggcggga aggatgcctg cttcggtgac tcaggtggac ccttggcctg 750 taacaagaat ggactgtggt atcagattgg aqtcgtqagc tggqgagtgg 800 getgtggteg geceaategg eeeggtgtet acaecaatat eagecaecae 850 tttgagtgga tecagaaget gatggeecag agtggeatgt eecageeaga 900 cocctootgg coactactot tittecetet tetetggget eteceaetee 950 tggggccggt etgageetae etgageeeat geageetggg gecaetgeea 1000 agtcaggccc tggttctctt ctgtcttgtt tggtaataaa cacattccag 1050 ttgatgcctt gcagggcatt cttcaaaaaa aaaaaaaaa aaaaaaaaa 1100 <210> 257 <211> 314 <212> PRT <213> Homo Sapien <400> 257 Met Gly Ala Arg Gly Ala Leu Leu Leu Ala Leu Leu Leu Ala Arg 10 1 Ala Gly Leu Arg Lys Pro Glu Ser Gln Glu Ala Ala Pro Leu Ser 25 20 Gly Pro Cys Gly Arg Arg Val Ile Thr Ser Arg Ile Val Gly Gly Glu Asp Ala Glu Leu Gly Arg Trp Pro Trp Gln Gly Ser Leu Arg Leu Trp Asp Ser His Val Cys Gly Val Ser Leu Leu Ser His Arg

Trp Ala Leu Thr Ala Ala His Cys Phe Glu Thr Tyr Ser Asp Leu

8.0

Ser Asp Pro Ser Gly Trp Met Val Gln Phe Gly Gln Leu Tnr Ger 95
Met Pro Ser Phe Tip Ser Leu Gln Ala Tyr Tyr Thr Aig Tyr Phe 110 115
Val Ser Asn Ile Tyr Leu Ser Pro Arg Tyr Leu Gly Asn Ser Pro 135
Tyr Asp Ile Ala Leu Val Lys Leu Ser Ala Pro Val Thr Tyr Thr 145 150
Lys His Ile Gln Pro Ile Cys Leu Gln Ala Ser Thr Phe Glu Phe 165
Glu Asn Arg Thr Asp Cys Trp Val Thr Gly Trp Gly Tyr Ile Lys 170 175
Glu Asp Glu Ala Leu Pro Ser Pro His Thr Leu Gln Glu Val Gln 185 190 195
Val Ala Ile Ile Asn Asn Ser Met Cys Asn His Leu Phe Leu Lys 200 205
Tyr Ser Phe Arg Lys Asp Ile Phe Gly Asp Met Val Cys Ala Gly
Asn Ala Gln Gly Gly Lys Asp Ala Cys Phe Gly Asp Ser Gly Gly 230 235
Pro Leu Ala Cys Asn Lys Asn Gly Leu Trp Tyr Gln Ile Gly Val 255
Val Ser Trp Gly Val Gly Cys Gly Arg Fro Asn Arg Pro Gly Val
Tyr Thr Asn Ile Ser His His Phe Glu Trp Ile Gln Lys Leu Met 285
Ala Gln Ser Gly Met Ser Gln Pro Asp Pro Ser Trp Pro Leu Leu 290 295
Fhe Phe Pro Leu Leu Trp Ala Leu Pro Leu Leu Gly Pro Val 305
<210> 258 <211> 2427 <212> DNA <213> Homo Sapien
<400> 258 cccacgcgtc cgcggacgcg tgggaagggc agaatgggac tccaagcctg 50

detectaggg etettigene feateetete tygeaaatge agitaeagee 100 cggageeega ccageggagg acgetgeeee caggetqqqt gteeetggge 150 egtgeggaed etgaggaaga getgagtete adetttgeed tgagacagea 200 gaatgtggaa agactotogg agotggtgca ggotgtgtog gatoccagot 250 ctecteaata eggaaaatae etgaeeetag agaatgtgge tgatetggtg 300 aggedatede dactgadeet deadacggtg daaaaatggo tettggdagd 350 cggagcccag aagtgccatt ctgtgatcac acaggacttt ctgacttgct 400 ggotgagoat cogacaagoa gaqotgotgo toootggggo tgagtttoat 450 cactatgtgg gaggandtad ggaaadddat gttgtaaggt coddacatdd 500 ctaccagett ccacaggeet tggcccccca tgtggaettt gtggggggae 550 tgcaccgttt tcccccaaca tcatccctga ggcaacgtcc tgagccgcag 600 gtgadaggga dtgtaggddt gdatdtgggg gtaadddddt dtgtgatddg 650 taagegatac aaettgaeet cacaagaegt gggetetgge accageaata 700 acagecaage etgtgeedag tteetggage agtattteda tgaeteagae 750 ctggdtdagt tdatgdgdd dttoggtggd aadtttgddd atdaggdatd 800 agtagecegt gtggttggac aacagggeeg gggeegggee gggattgagg 850 ccagtictaga tgtgcagtac ctgatgagtg ctggtgccaa catetecace 900 tgggtctaca gtagccctgg ccggcatgag ggacaggagc ccttcctgca 950 gtggctcatg ctgctcagta atgagtcagc cctgccacat gtgcatactg 1000 tgagetatqg agatgatgag gactecetea geagegeeta catecagegg 1050 gtdaadadtg agdtdatgaa ggdtgddgdt dggggtdtda dddtgdtdtt 1100 egecteaggt gaeagtgggg eegggtgttg gtetqtetet ggaagaeace 1150 agttoegeed tacetteect geeteeagee ectatgteac cacagtggga 1200 ggdadatdet tedaggaadd titedtdate acaaatgaaa tigttgadta 1250 tateagtggt ggtggettea geaatgtgtt eecaeggeet teataeeagg 1300 aggaagetgt aacgaagtte etgageteta gedeecaeet gedaecatee 1350 agttacttca atgccagtgg ccgtgcctac ccagatgtgg ctgcactttc 1400 tgatggctac tgggtggtca gcaacagagt gcccattcca tgggtgtccq 1450 gaaddtegge etetacheda gtgtttqqqq ggatedtate ettgateaat 1500 gageacagga teettagtgg eegeeeeet ettggettte teaacceaag 1550 getetaceag cageatgggg caggtetett tgatgtaace egtggetgee 1600 atgaqtootg totggatgaa gaggtagagg gocagggttt otgototggt 1650 cctggctggg atcctgtaac aggctgggga acaccaactt cccagctttg 1700 ctgaagacte tactcaacce ctgaccettt cetatcagga gagatggett 1750 gtococtgod etgaagetgg cagttoagto cottattotg cootgttgga 1800 ageoetgetg aacceteaac tattgaetge tgeagacage ttateteeet 1850 aaccetgaaa tgetgtgage ttgaettgae teecaaceet accatgetee 1900 atcatactca ggtctcccta ctcctgcctt agattcctca ataagatgct 1950 gtaactagea tittitgaat geeteteeet eegeatetea tetitetett 2000 ttcaatcagg cttttccaaa gggttgtata cagactctgt gcactatttc 2050 adttgatatt dattddddaa ttdadtgdaa ggagaddtdt adtgtdaddg 2100 trtactottt cctaccetga cateeagaaa caatggeete cagtgeatac 2150 tteteaatet ttgetttatg geettteeat eatagttgee eacteeetet 2200 cettaettag ettecaggie tiaactiete tgaetaetet tgietteete 2250 totcatcaat ttotgottot toatggaatg otgacettoa ttgotcoatt 2300 tgtagatttt tgctcttctc agtttactca ttgtcccctg gaacaaatca 2350 ctgacateta caaccattae cateteacta aataagaett tetateeaat 2400 aatgattgat acctcaaatg taaaaaa 2427

Ser Gly Lys Cys Ser Tyr Ser Pro Glu Pro Asp Gln Arg Arg Thr

<210> 259

<211> 556

<112> PRT

<213> Homo Sapien

<400> 259

Met Gly Leu Gln Ala Cys Leu Leu Gly Leu Phe Ala Leu Il. Leu

20	25	5 G
Leu Pro Pro Gly Trp Val	Ser Leu Gly Arq Ala Asp Pro 40	o Glu Glu 45
Glu Leu Ser Leu Thr Phe	Ala Leu Arg Gln Gln Asn Val	i Glu Arg 60
Leu Ser Glu Leu Val Gln 65	Ala Val Ser Asp Pro Ser Se:	r Pro Gln 75
Tyr Gly Lys Tyr Leu Thr	Leu Glu Asn Val Ala Asp Le 85	u Val Arg 90
Pro Ser Pro Leu Thr Leu 95	His Thr Val Gln Lys Trp Le	u Leu Ala 105
110	His Ser Val Ile Thr Gln As 115	
125	e Arg Gln Ala Glu Leu Leu Le 130	
140	r Val Gly Gly Pro Thr Glu Th 145	
155	o Tyr Gln Leu Pro Gln Ala Lo 160	
170	y Gly Leu His Arg Phe Pro P 175	
185	o Glu Pro Gln Val Thr Gly T 190	
200	nr Pro Ser Val Ile Arg Lys A 205	
215	al Gly Ser Gly Thr Ser Asn <i>F</i> 220	
230	eu Glu Gln Tyr Fhe His Asp 9 235	
245	eu Phe Gly Gly Asn Phe Ala : 250	
260	al Gly Gln Gln Gly Arg Gly 265	
Ile Glu Ala Ser Leu A 275	asp Val Gln Tyr Leu Met Ser 280	Ala Gly Ala 285

Ash Ile Ser Thr Trp Val Tyr Ser Ser Pro Gly Ard His Glu Gly 290 295
Gln Glu Pro Phe Leu Gln Trp Leu Met Leu Leu Ser Asn Glu Ser 305 310
Ala Leu Pro His Val His Thr Val Ser Tyr Gly Asp Asp Glu Asp 320 330
Ser Leu Ser Ser Ala Tyr Ile Gln Arg Val Asn Thr Glu Leu Met 345
Lys Ala Ala Arg Gly Leu Thr Leu Leu Phe Ala Ser Gly Asp 350 355
Ser Gly Ala Gly Cys Trp Ser Val Ser Gly Arg His Gln Phe Arg 365 370 370
Pro Thr Phe Pro Ala Ser Ser Pro Tyr Val Thr Thr Val Gly 390
Thr Ser Phe Gln Glu Pro Phe Leu Ile Thr Asn Glu Ile Val Asp 395 400
Tyr Ile Ser Gly Gly Gly Phe Ser Asn Val Phe Pro Arg Pro Ser
Tyr Gln Glu Glu Ala Val Thr Lys Phe Leu Ser Ser Ser Pro His 425 470 470
Leu Pro Pro Ser Ser Tyr Phe Asn Ala Ser Gly Arg Ala Tyr Pro 440 445
Asp Val Ala Ala Leu Ser Asp Gly Tyr Trp Val Val Ser Asn Arg 455 450 465
Val Pro Ile Pro Trp Val Ser Gly Thr Ser Ala Ser Thr Pro Val 470 475
Phe Gly Gly Ile Leu Ser Leu Ile Asn Glu His Arg Ile Leu Ser 495
Gly Arg Pro Pro Leu Gly Phe Leu Asn Pro Arg Leu Tyr Gln Gln 500 505
His Gly Ala Gly Leu Phe Asp Val Thr Arg Gly Cys His Glu Ser 515 520 525
Cys Leu Asp Glu Glu Val Glu Gly Gln Gly Phe Cys Ser Gly Pro 530 535
Gly Trp Asp Pro Val Thr Gly Trp Gly Thr Pro Thr Ser Gln Leu 555

Cys

<210> 260

<211> 1638

<212> DNA

<213> Homo Sapien

<400> 260

geogegeget etetecegge geocacacet gtetgagegg egeagegage 50 egoggodegg gogggetget eggegeggaa eagtgetegg eatggeaggg 100 attecaggge tectetteet tetettett etgetetgtg etgttgggea 150 agtgageeet tacagtgeee eetggaaaee eaettggeet geataeegee 200 teeetgtegt ettgeeecag tetaeectea atttageeaa geeagaettt 250 ggagccgaag ccaaattaga agtatcttet teatgtggae cccagtgtea 300 taagggaact ccactgccca ettacgaaga ggccaagcaa tatetgtett 350 atgaaacget etatgeeaat ggeageegea eagagaegea ggtgggeate 400 tacathorea geagtagtgg agatggggdd daacadegag actdagggtd 450 ttcaqqaaag totogaagga agoggoagat ttatggotat gacagcaggt 500 thaghatttt toggaaggae ttoctgotea actaconttt oteaacatea 550 gtgaagttat ecaegggetg caeeggeaec etggtggeag agaageatgt 600 deteacaget geocactgea tacaegatgg aaaaacetat gtgaaaggaa 650 cecagaaget tegagtggge tteetaaage eeaagtttaa agatggtggt 700 cgagggggga acgaetecae tteagecatg eccgageaga tgaaatttea 750 gtggatccgg gtgaaacgca cccatgtgcc caagggttgg atcaagggca 800 atgccaatga categgcatg gattatgatt atgccctcct ggaactcaaa 850 aageeceaca agagaaaatt tatgaagatt ggggtgagee eteetgetaa 900 gcagetgeda gggggdagaa tteaettete tggttatgae aatgaeegae 950 caggraattt ggtgtatcgc ttctgtgacg tcaaagacga gacctatgac 1000 ttgstotaco agoaatgoga tgoocagoca ggggocagog ggtotggggt 1050 ctatgtgagg atgtggaaga gacagcagca gaagtgggag cgaaaaatta 1100 ttggcatttt ttcagggcac cagtgggtgg acatgaatgg ttccccarag 1150 gatttcaacg tggctgtcag aatcactcct ctcaaatatg cccagatttg 1200 ctattgqatt aaaggaaact acctggattg tagggagggg tgacacagtg 1250 ttccct.etg gcagcaatta agggtcttca tgttcttatt ttaggagagg 1300 ccaaattgtt ttttgtcatt ggcgtgcaca cgtgtgtgtg tgtgtgtgtg 1350 tgtgtgtaag gtgtcttata atcttttacc tatttcttac aattgcaaga 1400 tgactggctt tactatttga aaactggttt gtgtatcata tcatatatca 1450 tttaagcagt ttgaaggcat acttttgcat agaaataaaa aaaatactga 1500 tttggggggaa tgaggaatat ttgacaatta agttaatott cacgtttttg 1550 caaactttga tttttatttc atctgaactt gtttcaaaga tttatattaa 1600 atatttggca tacaagagat atgaaaaaaa aaaaaaaa 1638

<210> 261

<211> 283

<212> PRT

<213> Homo Sapien

<400> 361

Met Ala Gly Ile Pro Gly Leu Leu Phe Leu Leu Phe Phe Leu Leu

Cys Ala Val Gly Gln Val Ser Pro Tyr Ser Ala Pro Trp Lys Pro

Thr Trp Pro Ala Tyr Arg Leu Pro Val Val Leu Pro Gln Ser Thr

Leu Asn Leu Ala Lys Pro Asp Phe Gly Ala Glu Ala Lys Leu Glu 50

Val Ser Ser Ser Cys Gly Pro Gln Cys His Lys Gly Thr Pro Leu

Pro Thr Tyr Glu Glu Ala Lys Gln Tyr Leu Ser Tyr Glu Thr Leu

Tyr Ala Asn Gly Ser Arg Thr Glu Thr Gln Val Gly Ile Tyr Ile

105 100 95

Leu Ser Ser Ser Gly Asp Gly Ala Gln His Arg Asp Ser Gly Ser 115 110

Ser Gly Lys Ser Arg Arg Lys Arg Gln Ile Tyr Gly Tyr Asp Ser 135
Arg Phe Ser Ile Phe Gly Lys Asp Phe Leu Leu Asn Tyr Pro Phe 140
Ser Thr Ser Val Lys Leu Ser Thr Gly Cys Thr Gly Thr Leu Val 1 ϵ 5
Ala Glu Lys His Val Leu Thr Ala Ala His Cys Ile His Asp Gly 170 175
Lys Thr Tyr Val Lys Gly Thr Gln Lys Leu Arg Val Gly Phe Leu 195
Lys Pro Lys Phe Lys Asp Gly Gly Arg Gly Ala Asn Asp Ser Thr 200 205
Ser Ala Met Pro Glu Gln Met Lys Phe Gln Trp Ile Arg Val Lys 225
Arg Thr His Val Pro Lys Gly Trp Ile Lys Gly Asn Ala Asn Asp 230 235
Ile Gly Met Asp Tyr Asp Tyr Ala Leu Leu Glu Leu Lys Lys Pro 255 245
His Lys Arg Lys Fhe Met Lys Ile Gly Val Ser Pro Pro Ala Lys 270
Gln Leu Pro Gly Gly Arg Ile His Phe Ser Gly Tyr Asp Asn Asp 275
Arg Pro Gly Asn Leu Val Tyr Arg Phe Cys Asp Val Lys Asp Glu 290 295
Thr Tyr Asp Leu Leu Tyr Gln Gln Cys Asp Ala Gln Pro Gly Ala 315
Ser Gly Ser Gly Val Tyr Val Arg Met Trp Lys Arg Gln Gln 330
Lys Trp Glu Arg Lys Ile Ile Gly Ile Phe Ser Gly His Gln Trp 345
Val Asp Met Asn Gly Ser Pro Gln Asp Phe Asn Val Ala Val Arg 350 350
Ile Thr Pro Leu Lys Tyr Ala Gln Ile Cys Tyr Trp Ile Lys Gly 375
Asn Tyr Leu Asi Cys Arg Glu Gly

166

<210> 262 <211> 1378 <212> DNA

<213> Homo Sapien

geategeest gggteteteg ageetgetge etgetedess gesseaceag 50 <400> 262 ccatggtggt ttetqqageg cccccagece tgggtggggg etgtetegge 100 accttcacct cectgetget getggegteg acagecated teaatgegge 150 caggatacet gtteececag eetgtgggaa geeceageag etgaaceggg 200 ttgtgggogg ogaggadagd actgadagdg agtggdddtg gatdgtgagd 250 atccagaaga atgggaccca ccactgcgca ggttctctgc tcaccagccg 300 ctgggtgatc actgctgccc actgtttcaa ggacaacctg aacaaaccat 350 acctyttete tytgetgety gyggeetgge agetggggaa ecetggetet 400 eggteccaga aggtgggtgt tgeetgggtg gagecccaec etgtgtatte 450 ctggaaggaa ggtgectgtg cagacattge cetggtgegt etegageget 500 coatacagtt etcagagogg gtootgooda totgootaco tgatgootot 550 atonactice etecaaacae ecaetgetgg aleteagget gggggageat 600 ccaagatgga gttcccttgc cccaccctca gaccctgcag aagctgaagg 650 ttentateat egaeteggaa gtetgeagee atetgtaetg geggggagea 700 ggacagggac ccatcactga ggacatgctg tgtgccggct acttggaggg 750 ggagogggat gettgtetgg gegaeteegg gggeeeeste atgtgeeagg 800 tggacggcgc etggetgetg geeggeatea teagetgggg egagggetgt 850 geogagequa acaggeoegg ggtotacate ageotetetg egeacegete 900 etgggtggag aagategtge aaggggtgea geteegeggg egegeteagg 950 ggggtggggc cetcagggca eegageeagg getetgggge egeegegege 1000 teetagggeg cagegggaeg eggggetegg atetgaaagg eggeeagate 1050 cacatotgga tetggatetg eggeggeete gggeggttte eeeegeegta 1100 aataggetea tetaeeteta eetetggggg eeeggaegge tgetgeggaa 1150

aggaaacccc otococqacc egocoqacgq octoagqccc coctocaaqq 1200 cateaggeee egeceaaegg ceteatgtee engeceedae qaetteegge 1250 ecogococog ggccccagog cttttgtgta tataaatgtt aatgattttt 1300 ataggtattt gtaaccetge ceacatatet tatttattee tecaatttea 1350 ataaattatt tattctccaa aaaaaaaa 1378 <210> 263 <211> 317

<212> PRT

<213> Homo Sapien

<213> Homo Sapien
<400> 263
Met Val Val Ser Gly Ala Pro Pro Ala Leu Gly Gly Gly Cys Leu 1 10 15
Gly Thr Phe Thr Ser Leu Leu Leu Leu Ala Ser Thr Ala Ile Leu 20 25 30
Asn Ala Ala Arg Ile Pro Val Pro Pro Ala Cys Gly Lys Pro Gln 35 40 45
Gln Leu Asn Arg Val Val Gly Gly Glu Asp Ser Thr Asp Ser Glu 50 55
Trp Pro Trp Ile Val Ser Ile Gln Lys Asn Gly Thr His His Cys 65 70 75
Ala Gly Ser Leu Leu Thr Ser Arg Trp Val Ile Thr Ala Ala His 90
Cys Phe Lys Asp Asn Leu Asn Lys Pro Tyr Leu Phe Ser Val Leu 95 100
Leu Gly Ala Trp Gln Leu Gly Asn Pro Gly Ser Arg Ser Gln Lys 110 115
Val Gly Val Ala Trp Val Glu Pro His Pro Val Tyr Ser Trp Lys 125
Glu Gly Ala Cys Ala Asp Ile Ala Leu Val Arg Leu Glu Arg Ser 140 145
Ile Gln Phe Ser Glu Arg Val Leu Pro Ile Cys Leu Pro Asp Ala 155 160 165
Ser Ile His Leu Pro Pro Asn Thr His Cys Trp Ile Ser Gly Trp 170 175

are may been
Gly Ser Ile Gln Asp Gly Val Pro Leu Pro His Pro Gln Thr Leu 190
Gln Lys Leu Lys Val Pro Ile Ile Asp Ser Glu Val Cys Ser His 210
Leu Tyr Trp Arg Gly Ala Gly Gln Gly Pro Ile Thr Glu Asp Met 225 215
Leu Cys Ala Gly Tyr Leu Glu Gly Glu Arg Asp Ala Cys Leu Gly 230 235
Asp Ser Gly Gly Pro Leu Met Cys Gln Val Asp Gly Ala Trp Leu 255
Leu Ala Gly Ile Ile Ser Trp Gly Glu Gly Cys Ala Glu Arg Asn 260
Arg Pro Gly Val Tyr Ile Ser Leu Ser Ala His Arg Ser Trp Val 285
Glu Lys Ile Val Gln Gly Val Gln Leu Arg Gly Arg Ala Gln Gly 295 300
Gly Gly Ala Leu Arg Ala Pro Ser Gln Gly Ser Gly Ala Ala 315
Arg Ser
<210 > 264
<211: 24 <212: DNA
<213> Artificial Sequence
<220> <223> Synthetic Oligonucleotide Probe
<pre><400> 264 gtccgcaagg atgcctacat gttc 24</pre>
<210> 265
211> 19
<pre><012> DNA <013> Artificial Sequence</pre>
<pre><320> <323> Synthetic Oligonucleotide Probe</pre>
<400> 265 qcagaggtgt ctaaggttg 19
<210> 266
<211> 24

```
<210 DNA
<2130 Artificial Sequence
<213 > Synthetic Oligonucleotide Probe
<400 > 265
 agetetagae caatgeeage ttee 24
<210> 267
<211> 45
<212> DNA
<213> Artificial Sequence
 gocadcaact cotgoaagaa ottotoagaa otgocootgg toatg 45
 <400> 267
 <210> 268
 <211> 25
 <012> DNA
 <213> Artificial Sequence
  *223 * Synthetic Oligonucleotide Probe
  2400 - 268
   ggggaattca ccctatgaca ttgcc 25
  .210> 269
  <211> 24
  <212 > DNA
  .213> Artificial Sequence
   <223 - Synthetic Oligonucleotide Probe
   <400> 269
   gaatgeeetg caageateaa etgg 24
   .210» 270
   -211 - 50
    . 212> DNA
   .113> Artificial Sequence
    <223> Synthetic Oligonucleotide Probe
     geacetytea ectaeactaa acacateeag eccatetyte teeaggeete 50
    <400> 270
```

```
₹210 - 271
<211 - 26
<21. - DNA
<21: Artificial Sequence
<2210
Synthetic Oligonucleotide Probe
<400 - 271
 gougaagggo agaatqqgac tocaag 26
<210> 272
<211> 18
 <212> DNA
<21:> Artificial Sequence
 <220>
 <223> Synthetic Oligonucleotide Probe
 <400> 272
 caqueetged adatgtge 18
 د110> ك73
 3211> 19
 <212> DNA
 <213> Artificial Sequence
 +223> Synthetic Oligonucleotide Probe
 .400> 273
  tactgggtgg tcagcaac 18
  .210: 274
  <211> 24
  .212 - DNA
  23332 Artificial Sequence
  .120 ·
  8223 - Synthetic Oligonucleotide Probe
  .400> 274
   ugogaagago agggtgagad occg 24
   ...10> ...75
   . 211> 45
   . 2125 DNA
   <2175 Artificial Sequence
   <223. Synthetic Oligonucleotide Probe</pre>
```

```
undeteaten tetetggeää atgeägttae ägeeeggage eegae 45
-400 - 275
<210. 275
<111 - 21
<1.12 \leq 10 M_{\rm Pl}
<!li>Arrificial Sequence
<223 - Symuhetic Oligonucleotide Probe
 <400 - 275
 gggdagggat todagggdtd c 21
 -2105 277
 ₹211> 18
 . 213 - DHA
 4213 - Artificial Sequence
 8223 > Synthetic Oligonucleotide Probe
  <400> 277
  ggetatgada gdaggttd 18
  .210> 278
  ._11. 18
  ...i. BIA
  . 113 - Artificial Sequence
  223 - Synthetic Oligonucleotide Probe
  .400 273
   tgaraatgac cgaccagg 18
   .110> 279
   .111> 24
   .11. INA
   ...13 - Artificial Sequence
    8.223 - Synthetic Oligonucleotide Probe
    <400> 279
     gcategeatt getggtagag caag 24
    .2100 280
    .211> 45
    .312 - DNA
    .21: Artificial Sequence
     2220 ·
```

```
>203> Synthetic Oligonucleotide Probe
ttanagtgod cootggaaad coacttggod tgdatandgo ctddd 45
<400> 380
<210 - 281
<211 > 34
<2.12 > DNA
<2213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
  egintngage getecatada gittedelitge deda 34
 <400> 281
 <210× 282
 <211 - 51
 <112 > DNA
 <113> Artificial Sequence
  <223> Synthetic Oligonucleotide Probe
   tggaggggga gegggatget tgtetgggeg aeteeggggg eeeecteatg 50
  <400> 282
   tgccaggtgg a 61
   .210> 283
   ._11> 119
   .212> DNA
   <213> Artificial Sequence
   <203> Synthetic Oligonucleotide Probe
   <21105
    decteagade etgeagaage tgaaggttee tateategae teggaagtet 50
   <400× 283
    geagecatet gtactggegg ggageaggae agggaeecat eactgaggae 100
     atgctgtgtg coggetact 119
    .110> 284
    :1.11> 1875
    <212> DNA
    <213> Homo Sapien
     gaeggetgge caecatgeae ggeteetgea gttteetgat gettetgetg 50
    <460> 284
     cogotactgo tactgotggt ggocaccaca ggccccgttg gagccctcac 100
```

agatgaggag aaacgtttga tggtggagct qcacaacctc taccgggccc 150 aggtatecee gacggeetea gacatgetge acatgagatg ggacgaggag 200 ctggccgcct tegccaagge ctaegcaegg cagtgcgtgt ggggccaeaa 250 caaggagege gggegeegeg gegagaatet gttegeeate acagaegagg 300 gcatggacgt gccgctggcc atggaggagt ggcaccacga gcgtgagcac 350 tacaacetea gegeegeeae etgeageeea ggeeagatgt geggeeaeta 400 nacgcaggtg gtatgggcna agadagagag gatdggctgt ggttdccadt 450 tetgtgagaa getecagggt gttgaggaga ecaacatega attactggtg 500 tgcaactatg agecteeggg gaacgtgaag gggaaacgge eetaccagga 550 ggggactccg tgctcccaat gtccctctgg ctaccactgc aagaactccc 600 totgtgaacc catoggaage ooggaagatg otcaggattt goottacotg 650 gtaactgagg ccccatcctt cegggegact gaagcatcag actctaggaa 700 aatgggtact cettetteee tagcaacggg gatteegget ttettggtaa 750 cagaggtete aggetecety geaaceaagg etetgeetge tgtggaaace 800 caggeeccaa etteettage aacgaaagae eegeecteea tggeaacaga 850 ggetecacet tgegtaacaa etgaggteee ttecattttg geageteaca 900 geotgecete ettggatgag gagecagtta cettesecaa ategaeceat 950 gttoctatoc caaaatcago agacaaagtg acagacaaaa caaaagtgcc 1000 etetaggage ecagagaaet etetggaeee eaagatgtee etgaeagggg 1050 caagggaact octaccecat geocaggagg aggetgagge tgaggetgag 1100 ttgcctcctt ceagtgaggt ettggcetca gtttttccag cecaggacaa 1150 gecaggtgag etgeaggeca caetggaeca eaeggggeae aeeteeteea 1200 agtccctgcc caatttcccc aatacctctg ccaccgctaa tgccacgggt 1250 gggcgtgccc tggctctgca gtcgtccttg ccaggtgcag agggccctga 1300 caageetage gttgtgteag ggetgaaete gggeeetggt eatgtgtggg 1350 geoeteteet gggaetaetg eteetgeete etetggtgtt ggetggaate 1400 ttotgaatgg gataccaetc aaagggtgaa gagqtcagot grootectgt 1450 catctteece accetyteec cagecectaa acaagatact tettgyttaa 1500 ggccctccgg aagggaaagg ctacggggca tgtgcctcat cacaccatcc 1550 atootggagg cacaaggoot ggotggotgo gagotcagga ggoogootga 1600 ggactgcaca ccgggcccac acctetectg eccetecete etgagtectg 1650 ggggtgggag gatttgaggg agctcactgc ctacctggcc tggggetgtc 1700 tgeccaeaca geatgtgege tetecetgag tgeetgtgta getggggatg 1750 gggatteeta ggggeagatg aaggacaage eecactggag tggggttett 1800 tgagtggggg aggcagggac gagggaagga aagtaactcc tgactctcca 1850 ataaaaacct gtccaacctg tgaaa 1875

<210> 285 <211> 463 <212> PRT <213> Homo Sapien

Met His Gly Ser Cys Ser Phe Leu Met Leu Leu Pro Leu Leu <400> 285

Leu Leu Leu Val Ala Thr Thr Gly Pro Val Gly Ala Leu Thr Asp 2.0

Glu Glu Lys Arg Leu Met Val Glu Leu His Asn Leu Tyr Arg Ala 35

Gln Val Ser Pro Thr Ala Ser Asp Met Leu His Met Arg Trp Asp

Glu Glu Leu Ala Ala Phe Ala Lys Ala Tyr Ala Arg Gln Cys Val

Trp Gly His Asn Lys Glu Arg Gly Arg Arg Gly Glu Asn Leu Phe

Ala Ile Thr Asp Glu Gly Met Asp Val Pro Leu Ala Met Glu Glu

Trp His His Glu Arg Glu His Tyr Asn Leu Ser Ala Ala Thr Cys 110

Ser Pro Gly Gln Met Cys Gly His Tyr Thr Gln Val Val Trp Ala

Lys Thi Glu Arg Ile Gly Cys Gly Ser His Phe Cys Glu Lys Leu 145 145
Gln Gly Val Glu Glu Thr Asn Ile Glu Leu Leu Val Cys Asn Tyn 155 150 160
Glu Pro Pro Gly Asn Val Lys Gly Lys Arg Pro Tyr Gln Glu Gly 170 170
Thr Pro Cys Ser Gln Cys Pro Ser Gly Tyr His Cys Lys Asn Ser 195
Leu Cys Glu Pro Ile Gly Ser Pro Glu Asp Ala Gln Asp Leu Pro 200 205
Tyr Leu Val Thr Glu Ala Pro Ser Phe Arg Ala Thr Glu Ala Ser 225
Asp Ser Arg Lys Met Gly Thr Pro Ser Ser Leu Ala Thr Gly Ile 230
Pro Ala Phe Leu Val Thr Glu Val Ser Gly Ser Leu Ala Thr Lys 245
Ala Leu Pro Ala Val Glu Thr Gln Ala Fro Thr Ser Leu Ala Thr 270 260
Lys Asp Pro Pro Ser Met Ala Thr Glu Ala Pro Pro Cys Val Thr 285
Thr Glu Val Pro Ser Ile Leu Ala Ala His Ser Leu Pro Ser Leu 290 290
Asp Glu Glu Pro Val Thr Phe Pro Lys Ser Thr His Val Pro Ile 315
Pro Lys Ser Ala Asp Lys Val Thr Asp Lys Thr Lys Val Pro Ser 320 325
Arg Ser Pro Glu Asn Ser Leu Asp Pro Lys Met Ser Leu Thr Gly 345 335
Ala Arg Glu Leu Leu Pro His Ala Glr. Glu Glu Ala Glu Ala Glu 350
Ala Glu Leu Pro Pro Ser Ser Glu Val Leu Ala Ser Val Phe Pro 375 365
Ala Gln Asp Lys Pro Gly Glu Leu Gln Ala Thr Leu Asp His Thr 390 380 385 390 Gly His Thr Ser Ser Lys Ser Leu Pro Asn Phe Pro Asn Thr Ser 405
The Pho Ero Asn Thr Ser

```
Ala Thr Ala Asn Ala Thr Gly Gly Arg Ala Leu Ala Leu Gln Ser
                410
Ser Leu Pro Gly Ala Glu Gly Pro Asp Lys Pro Ser Val Val Ser
\operatorname{Gl}_{\gamma} Leu Asn Ser Gly Pro Gly His Val Trp Gly Pro Leu Leu Gly
                 440
Leu Leu Leu Pro Pro Leu Val Leu Ala Gly Ile Phe
<210> 28€
<211> 19
<2125 DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
<400> 28€
teetgeagtt teetgatge 19
<210> 287
<211> 24
<712> DMA
<213> Artificial Sequence
 8223> Synthetic Oligonucleotide Probe
  400> 287
 ctdatattgc adaddagtaa ttcg 24
 <210> 288
 .211> 45
 CL12> DHA
 <213> Artificial Sequence
 ....0>
 .233> Synthetic Oligonucleotide Probe
  atgagjagaa acgittgatg giggagetge acaaccieta eeggg 45
  .400> 283
  ...10> 289
  -111> 3662
  CD12> DNA
  <213> Homo Sapien
   gtaactgaag teaggetttt catttggqaa geceetcaa eagaattegg 50
   400 > 289
```

teatteteea agttatggtg gaegtaette tgttgttete eetetgettg 100 ctttttcaca ttagcaqace ggadttaaqt dacaadagat tatdtttcat 150 caaggcaagt tecatgagee acetteaaag eettegagaa gtgaaaetga 200 acaacaatga attggagacc attccaaatc tgggaccagt ctcggcaaat 250 attacactic tetestiggs tggaaacagg attgttgaaa tastessiga 300 acatetgaaa gagttteagt eeettgaaae tttggaeett ageageaaca 350 atatttcaga getecaaaet geatttecag eeetacaget caaatatetg 400 tatotoaada goaaceqagt cadatoaatq gaacetgggt attittgadaa 450 tttggccaac acactecttg tgttaaaget gaacaggaac cgaateteag 500 ctateceace caagatgttt aaaetgeece aactgeaaca tetegaattg 550 aaccgaaaca agattaaaaa tgtagatgga ctgacattcc aaggccttgg 600 tgetetgaag tetetgaaaa tgeaaagaaa tggagtaaeg aaaettatgg 650 atggagettt ttgggggetg agcaacatgg aaattttgea getggaeeat 700 aacaacctaa cagagattac caaaggetgg etttacgget tgetgatget 750 graggaaett cateteagee aaaatgeeat caacaggate ageeetgate 800 ddtgggagtt dtgddagaag dtdagtgagd tggaddtaad tttdaatdad 850 ttatcaaggt tagatgattc aagcttoott ggcctaagct tactaaatac 900 actgeacatt gggaacaaca gagteagsta cattgetgat tgtgeettee 950 gggggctttc cagtttaaag actttggate tgaagaacaa tgaaatttcc 1000 tggactattg aagacatgaa tggtgctttc tctgggcttg acaaactgag 1050 gegaetgata etecaaggaa areggateeg ttetattaet aaaaaageet 1100 toactggttt ggatgcattg glphagcatctag acctgagtga daacgcaatc 1150 atgtetttae aaggeaatge atttteacaa atgaagaaac tgeaacaatt 1200 geatttaaat aeateaagee tittgigega tigeeageta aaaiggeise 1250 cacagtgggt ggeggaaaac aacttteaga getttgtaaa tgeeagttgt 1300 geocatecte agetgetaaa aqqaagaage atttttgetg ttageecaqa 1350 tggatttgtg tgtgatgatt ttancaaaaca caagataacg gttdagadag 1400 aaacacagto gycaataaaa gyttocaatt tgagtttcat otgotoagot 1450 godagoagoa gtqattoooo aatgaotttt gottggaaaa aagacaatga 1500 actactgcat gatgctgaaa tggaaaatta tgcacacctc cgggcccaag 1550 gtggegaggt gatggagtat accaecatee tteggetgeg egaggtggaa 1600 tttgccagtg aggggaaata tcagtgtgtc atctccaatc acittggttc 1650 atoctactot gtcaaageca agettacagt aaatatgett ceeteattea 1700 ccaagacccc catggatete accatucgag etggggccat ggcacgettg 1750 gagtgtgetg etgtggggea eccageeeee cagatageet ggeagaagga 1+60 tgggggcaca gaetteecag etgeaeggga gagaegeatg eatgtgatge 1850 ccgaggatga cgtgttcttt atcgtggatg tgaagataga ggacattggg 1900 gtatadaget geadagetea gaadagtgea ggaagtattt dagdaaatge 1950 aactotgact gtootagaaa caccatcatt tttgcggcca ctgttggacc 2000 gaadtgtaan daaggqagaa adagdegted tadagtgdat tgdtggagga 1050 agneeticee etaaaetgaa etggaeeaaa gatgatagee eattggtggt 2100 aadogagagg cactititig dagdaggdaa tdagdtidig attatigigg 1150 actoagatgt cagtgatgot gggaaataca catgtgagat gtotaacaco 1200 cttggcactg agagaggaaa cgtgcgcctc agtgtgatcc ccactccaac 2250 ctgegacted deteagatga dagededate gttagacgat gaeggatggg 2300 deadtgtggg tgtegtgate atagcegtgg tttgetgtgt ggtgggdaeg 2350 tractogtgt gggtggtrat catataccae acaaggogga ggaatgaaga 2400 ttgcagcatt accaacacag atgagaccaa ettgccagca gatattecta #450 gttatttgtc atctcaggga acgttagetg acaggcagga tgggtacqtg 2500 tettoagaaa giggaagooa odacdagttt gteacatett caggtgetgg 2550 atttttetta edacaadatg adagtagtgg gadetgedat attgadaata 2600 geagtgaage tgatgtggaa getgeeaeag atetgtteet ttgteegttt 2650 ttgggatcca caggeeetat gtatttgaag ggaaatgtgt atggeteaga 2700 teettittgaa adatateata eaggittgeag teetgaeeea agaadagitti 2750 taatggacca etatgageee agttacataa aqaaaaagga gtgetaccca 2800 tgttctcatc cttcagaaga atcctgcgaa cggagcttca gtaatatatc 2850 gtggeettea catgtgagga agetaettaa caetagttae teteacaatg 2900 aaggacctgg aatgaaaaat ctgtgtctaa acaagtcctc tttagatttt 2950 agtgcaaatc cagagccagc gtcggttgcc tcgagtaatt ctttcatggg 3000 tacctttgga aaagctetea ggagaeetea eetagatgee tatteaaget 3050 ttggadaged atdagattgt dagedaagag eettttattt gaaagetdat 3100 tettececag aettgjaete tgggteagag gaagatggga aagaaaggae 3150 agattttcag gaagaaaatc acatttgtac ctttaaacag actttagaaa 3200 actabaggae tecaaatttt eagtettatg aettggaeae atagaetgaa 3250 tgagaccaaa ggaaaagctt aacatactac ctcaagtgaa cttttattta 3300 aaagagagag aatcttatgt tttttaaatg gagttatgaa ttttaaaagg 3350 ataaaaaatgo titattiata cagatgaaco aaaattacaa aaagttatga 3400 asatttttat actgggaatg atgctcatat aagaatacct ttttaaacta 3450 thititaact tigittiatg caaaaaagta tottacgtaa attaatgata 3500 taaatdatga ttattttatg tatttttata atgodagatt totttttatg 3550 gaaaatgagt tactaaagca ttttaaataa tacctgcctt gtaccatttt 3600 ttaaatagaa gttacttcat tatattttgc acattatatt taataaaatg 3650 tgtcaatttg aa 3662

^{3210&}gt; 290

^{3211× 1059}

 $<\!\!212>-FET$

<2113> Homo Sapien

Met Val Asp Val Leu Leu Leu Phe Ser Leu Cys Leu Leu Phe His <400 > 290

Ile Ser Arg Pro Asp Leu Ser His Asn Arg Leu Ser Phe Ile Lys

Ala Ser Ser Met Sei His Leu Gln Ser Leu Arg Glu Val Lys Leu 35 40
Asn Asn Asn Glu Leu Glu Thr Ile Pro Asn Leu Gly Pro Val Ser 50 55
Ala Asn Ile Thr Leu Leu Ser Leu Ala Gly Asn Arg Ile Val Glu 75
Ile Leu Pro Glu His Leu Lys Glu Phe Gln Ser Leu Glu Thr Leu 80 85
Asp Leu Ser Ser Asn Asn Ile Ser Glu Leu Gln Thr Ala Phe Pro 100 105
Ala Leu Gln Leu Lys Tyr Leu Tyr Leu Asn Ser Asn Arg Val Thr 110 115
Ser Met Glu Pro Gly Tyr Phe Asp Asn Leu Ala Asn Thr Leu Leu 135
Val Leu Lys Leu Asn Arg Asn Arg Ile Ser Ala Ile Pro Pro Lys 140 145
Met Phe Lys Leu Pro Gln Leu Gln His Leu Glu Leu Asn Arg Asn
Lys Ile Lys Asn Val Asp Gly Leu Thr Phc Gln Gly Leu Gly Ala 170 175
Leu Lys Ser Leu Lys Met Gln Arg Asn Gly Val Thr Lys Leu Met 190 195
Asp Gly Ala Phe Trp Gly Leu Ser Asn Met Glu Ile Leu Gln Leu 200 200
Asp His Asn Asn Leu Thr Glu Ile Thr Lys Gly Trp Leu Tyr Gly 225
Leu Leu Met Leu Gln Glu Leu His Leu Ser Gln Asn Ala Ile Asn 230 235
Arg Ile Ser Pro Asp Ala Trp Glu Phe Cys Gln Lys Leu Ser Glu 255
Leu Asp Leu Thr Phe Asn His Leu Ser Arg Leu Asp Asp Ser Ser 270
Phe Leu Gly Leu Ser Leu Leu Asn Thr Leu His Ile Gly Asn Asn 285
Arg Val Ser Tyr Ile Ala Asp Cys Ala Phe Arg Gly Leu Ser Ser

295 290
Leu Lys Thr Leu Asp Leu Lys Asn Asn Glu Ile Ser Tip Thr Ile 315
Glu Asp Met Asn Gly Ala Phe Ser Gly Leu Asp Lys Leu Arg Arg 320 325
Leu Ile Leu Gln Gly Asn Arg Ile Arg Ser Ile Thr Lys Lys Ala 345
Phe Thr Gly Leu Asp Ala Leu Glu His Leu Asp Leu Ser Asp Asn 360
Ala Ile Met Ser Leu Gln Gly Asn Ala Phe Ser Gln Met Lys Lys 375 365
Leu Gln Gln Leu His Leu Asn Thr Ser Ser Leu Leu Cys Asp Cys 390
Gln Leu Lys Trp Leu Pro Gln Trp Val Ala Glu Asn Asn Phe Gln 405
Ser Phe Val Asn Ala Ser Cys Ala His Pro Gln Leu Leu Lys Gly 410 420
Arg Ser Ile Phe Ala Val Ser Pro Asp Gly Phe Val Cys Asp Asp 435
Phe Pro Lys Pro Gln Ile Thr Val Gln Pro Glu Thr Gln Ser Ala 440 445
Ile Lys Gly Ser Asn Leu Ser Phe Ile Cys Ser Ala Ala Ser Ser 465 455
Ser Asp Ser Pro Met Thr Phe Ala Trp Lys Lys Asp Asn Glu Leu
470 475 480 475
Leu His Asp Ala Glu Met Glu Asn Tyr Ala His Leu Arg Ala Gln 495
Gly Gly Glu Val Met Glu Tyr Thr Thr Ile Leu Arg Leu Arg Glu 510
Val Glu Phe Ala Ser Glu Gly Lys Tyr Gln Cys Val Ile Ser Asn 525
His Phe Gly Ser Ser Tyr Ser Val Lys Ala Lys Leu Thr Val Asn 530 535
Met Leu Pro Ser Phe Thr Lys Thr Pro Met Asp Leu Thr Ile Arg 555 545

Ala Gly Ala Met Ala Arg Leu Glu Cys Ala Ala Val Gly His Pro 560 565
Ala Pro Gln Ile Ala Trp Gln Lys Asp Gly Gly Thr Asp Phe Pro 585 575
Ala Ala Arg Glu Arg Arg Met His Val Met Pro Glu Asp Asp Val 590 595
Phe Phe Ile Val Asp Val Lys Ile Glu Asp Ile Gly Val Tyr Ser 615
Cys Thr Ala Gln Asn Ser Ala Gly Ser Ile Ser Ala Asn Ala Thr 620 625 630
Leu Thr Val Leu Glu Thr Pro Ser Phe Leu Arg Pro Leu Leu Asp 645 635
Arg Thr Val Thr Lys Gly Glu Thr Ala Val Leu Gln Cys Ile Ala 650
Gly Gly Ser Pro Pro Pro Lys Leu Asn Trp Thr Lys Asp Asp Ser 675
Pro Leu Val Val Thr Glu Arg His Phe Phe Ala Ala Gly Asn Gln 680 685
Leu Leu Ile Ile Val Asp Ser Asp Val Ser Asp Ala Gly Lys Tyr 705 695
Thr Cys Glu Met Ser Asn Thr Leu Gly Thr Glu Arg Gly Asn Val 720
Arg Leu Ser Val Ile Pro Thr Pro Thr Cys Asp Ser Pro Gln Met 735 725
Thr Ala Pro Ser Leu Asp Asp Asp Gly Trp Ala Thr Val Gly Val 740 740
Val Ile Ile Ala Val Val Cys Cys Val Val Gly Thr Ser Leu Val 765 755
Trp Val Val Ile Ile Tyr His Thr Arg Arg Arg Asn Glu Asp Cys 770 775
Scr Ile Thr Asn Thr Asp Glu Thr Asn Leu Pro Ala Asp Ile Pro
785 Ser Tyr Leu Ser Ser Gln Gly Thr Leu Ala Asp Arg Gln Asp Gly 800 800

Tyr Val Ser Ser Glu Ser Gly Ser His His Gln Phe Val Thr Ser 825
Ser Gly Ala Gly Pho Phe Leu Pro Gln His Asp Ser Ser Gly Thr 830 835
Cys His Ile Asp Asn Ser Ser Glu Ala Asp Val Glu Ala Ala Thr 855
Asp Leu Phe Leu Cys Pro Phe Leu Gly Ser Thr Gly Pro Met Tyr 860 865
Leu Lys Gly Asn Val Tyr Gly Ser Asp Pro Phe Glu Thr Tyr His 885
Thr Gly Cys Ser Pro Asp Pro Arg Thr Val Leu Met Asp His Tyr 890 895
Glu Pro Ser Tyr Ile Lys Lys Lys Glu Cys Tyr Pro Cys Ser His 915
Pro Ser Glu Glu Ser Cys Glu Arg Ser Phe Ser Asn Ile Ser Trp 920 925
Pro Ser His Val Arg Lys Leu Leu Asn Thr Ser Tyr Ser His Asn 945
Glu Gly Pro Gly Met Lys Asn Leu Cys Leu Asn Lys Ser Ser Leu 950 955
Asp Phe Ser Ala Asn Pro Glu Pro Ala Ser Val Ala Ser Ser Asn 975
Ser Phe Met Gly Thr Phe Gly Lys Ala Leu Arg Arg Pro His Leu 980 985
Asp Ala Tyr Ser Ser Phe Gly Gln Pro Ser Asp Cys Gln Pro Arg 1005
Ala Phe Tyr Leu Lys Ala His Ser Ser Pro Asp Leu Asp Ser Gly 1010 1015
Ser Glu Glu Asp Gly Lys Glu Arg Thr Asp Phe Gln Glu Glu Asn 1035
His Ile Cys Thr Phe Lys Gln Thr Leu Glu Asn Tyr Arg Thr Pro 1040 1045
Asn Phe Gln Ser Tyr Asp Leu Asp Thr 1055
<210> 291

<210> 291 <211> 2906 212> DNA

<213> Homo Sapien

ggggagagga attgaccatg taaaaggaga cttttttttt tggtggtggt 50 <400 > 291 ggotgttggg tgoottgcaa aaatgaagga tgcaggacgc agetttotoc 100 tggaacegaa egcaatggat aaactgattg tgcaagagag aaggaagaac 150 gaagettttt ettgtgagee etggatetta acacaaatgt gtatatgtge 200 acacagggag cattcaagaa tgaaataaac cagagttaga cccgcggggg 250 ttggtgtgtt etgaeataaa taaataatet taaaqeaqet gtteccetce 300 ccaccccaa aaaaaaggat gattggaaat gaagaaccga ggattcacaa 350 agaaaaaagt atgtteattt ttetetataa aggagaaagt gageeaagga 400 gatatttttg gaatgaaaag tttggggctt ttttagtaaa gtaaagaact 450 ggtgtggtgg tgttttdctt totttttgaa tttdccacaa gaggagagga 500 aattaataat acatotgoaa agaaatttoa gagaagaaaa gttgacogog 550 gcagattgag gcattgattg ggggagagaa accagtagag cadagttgga 600 tttgtgccta tgttgactaa aattgacgga taattgcagt tggatttttc 650 tteateaace teetttttt taaattttta tteettttgg tateaagate 700 atgogtttto tottgttott aaccaddtgg atttodatot ggatgttgot 750 gtgatdagtd tgaaatadaa dtgtttgaat tddagaagga ddaadaddag 800 ataaattatg aatgttgaad aagatgaddt tadatddada gdagataatg 850 atagytoota ggtttaacag ggccctattt gaccccctgc ttgtggtgct 900 getggetett caacttettg tggtggetgg tetggtgegg geteagaeet 950 geocttotgt gtgeteetge ageaaceagt teageaaggt qatttgtgtt 1000 oggaaaaaco tgogtgaggt tooggatggo atotocacoa acacaeggot 1050 gotgaadoto catgagaado aaatodagat datdaaagtg aadagottda 1100 agcaettgag geaettggaa ateetacagt tgagtaggaa eeatateaga 1150 accattgaaa ttqqggcttt caatggtetg gogaacetea acaetetgga 1200 actetttgae aategtetta etaceatece qaatggaget tttgtataet 1250 tgtetaaaet gaaggagete tggttgegaa acaaeeceat tgaaageate 1360 dottottatg offftaadag aatrooffdt figogoogad tagadffagg 13°0. ggaattgaaa agacttteat acateteaga aggtgeettt gaaggtetgt 1400 ccaacttgag gtatttgaac cttgccatgt gcaaccttcg ggaaatccct 1450 aacetcacae egetcataaa actagatgag etggatettt etgggaatea 1500 tttatctgcc atcaggcctg gctctttcca gggtttgatg caccttcaaa 1550 aactgtggat gatacagtce cagattcaag tgattgaacg gaatgeettt 1600 gabaaddtte agtbabtaqt ggagatbaad etggbabada ataatbtaad 1650 attactgoot catgacctot toactcoott goatcatota gagoggatac 1700 atttacatca caaccettgg aactgtaact gtgacatact gtggctcage 1750 tggtggataa aagacatggc cccctcgaac acagettgtt gtgcccggtg 1800 taacacteet eecaatetaa aggggaggta cattggagag etegaceaga 1850 attacttcae atgetatget deggtgattg tggageeece tgeagaeete 1900 aatgtcactg aaggcatggc agctgadctg aaatgtcggg cctccacatc 1950 cetgacatet gtatettgga ttaeteeaaa tggaacagte atgacacatg 2000 gggcgtacaa agtgcggata gctgtgctca gtgatggtac gttaaatttc 2050 adaaatgtaa dtgtgdaaga tadaggdatg tadadatgta tggtgagtaa 2100 ttddgttggg aatadtactg dttdagddad ddtgaatgtt adtgdagdaa 2150 deactacted tittetettae titteaaceg teacagtaga gaetatggaa 1100 degret cagg argaggeacg gadeacagar aacaargrag greecactee 12250 agtggtogae tgggagadda ccaatgtgad daddtototo adaddadaga [300] geacaaggte gacagagaaa acdtteacca teecagtgae tgatataaac 2350 agtgggatee eaggaattga tgaggteatg aagaetaeea aaateateat 1400 tgggtgtttt gtggccatca cactcatggc tgcagtgatg ctggtcattt ::450 totacaagat gaggaagcag caccategge aaaaccatea egeeccaaca 1500 aggactgttg aaattattaa tgtqgatgat gagattacgg gagacacacc 3550 natggaaago danotgooda tgootgotat ngagdatgaq danotaaato 2600 actataacto atacaaatot coottoaaco acacaacaac agttaacaca 2650 ataaattoaa tacacagtto agtgoatgaa oogttattga toogaatgaa 2700 ctctaaagac aatgtacaag agactcaaat ctaaaacatt tacagagtta 2750 caaaaaacaa acaatcaaaa aaaaagacag tttattaaaa atgacacaaa 2800 tgactgggct aaatctactg tttcaaaaaa gtgtctttac aaaaaaacaa 2850 aaaagaaaag aaatttattt attaaaaatt ctattgtgat ctaaagcaga 2900 caaaaa 2906

<210> 292 <211> 640

<212> PRT

<213> Homo Sapien

Met Leu Asn Lys Met Thr Leu His Pro Gln Gln Ile Met Ile Gly <400> 292

Pro Arg Phe Asn Arg Ala Leu Phe Asp Pro Leu Leu Val Val Leu

Leu Ala Leu Gln Leu Leu Val Val Ala Gly Leu Val Arg Ala Gln

Thr Cys Pro Ser Val Cys Ser Cys Ser Asn Gln Phe Ser Lys Val 50

Ile Cys Val Arg Lys Asn Leu Arg Glu Val Pro Asp Gly Ile Ser

Thr Asn Thr Arg Leu Leu Asn Leu His Glu Asn Gln Ile Gln Ile

Ile Lys Val Asn Ser Phe Lys His Leu Arg His Leu Glu Ile Leu 95

Gln Leu Ser Arg Asn His Ile Arg Thr Ile Glu Ile Gly Ala Phe 110

Asn Gly Leu Ala Asn Leu Asn Thr Leu Glu Leu Phe Asp Asn Arg

Leu Thr Thr Ile Pro Asn Gly Ala Phe Val Tyr Leu Ser Lys Leu 140

Lys Glu Leu Trp Leu Arg Asn Asn Pro Ile Glu Ser Ile Pro Ser

160	165
Tyr Ala Phe Asn Arg Ile Pro Ser Leu Arg Arg Leu Asp Leu 170	Gly 180
Glu Leu Lys Arg Leu Ser Tyr Ile Ser Glu Gly Ala Phe Glu	Gly
185	195
Leu Ser Asn Leu Arg Tyr Leu Asn Leu Ala Met Cys Asn Leu	Arg
200 205	210
Glu Ile Pro Asn Leu Thr Pro Leu Ile Lys Leu Asp Glu Leu	1 Asp
215	225
Leu Ser Gly Asn His Leu Ser Ala Ile Arg Pro Gly Ser Ph	e Gln
235	240
Gly Leu Met His Leu Gln Lys Leu Trp Met Ile Gln Ser Gl	n Ile
250	255
Gln Val Ile Glu Arg Asn Ala Phe Asp Asn Leu Gln Ser Le	u Val
260 265	270
Glu Ile Asn Leu Ala His Asn Asn Leu Thr Leu Leu Pro Hi	.s Asp
275	285
Leu Phe Thr Pro Leu His His Leu Glu Arg Ile His Leu H	is His
295	300
Asn Pro Trp Asn Cys Asn Cys Asp Ile Leu Trp Leu Ser T 305	
Ile Lys Asp Met Ala Pro Ser Asn Thr Ala Cys Cys Ala A 320 325	
Asn Thr Pro Pro Asn Leu Lys Gly Arg Tyr Ile Gly Glu I	
Gln Asn Tyr Phe Thr Cys Tyr Ala Pro Val Ile Val Glu I 350	
Ala Asp Leu Asn Val Thr Glu Gly Met Ala Ala Glu Leu 1 365	
Arg Ala Ser Thr Ser Leu Thr Ser Val Ser Trp Ile Thr 380	
Gly Thr Val Met Thr His Gly Ala Tyr Lys Val Arg Ile 395 400	
Leu Ser Asp Gly Thr Leu Asn Phe Thr Asn Val Thr Val	Gln Asp
410	420

Thi Gly Met Tyr Thr Cys Met Val Ser Asn Ser Val Gly Asn Thi 435
Thr Ala Ser Ala Thr Leu Asn Val Thr Ala Ala Thr Thr Thr Pro 440 445
Phe Ser Tyr Phe Ser Thr Val Thr Val Glu Thr Met Glu Pro Ser 465
Gln Asp Glu Ala Arg Thr Thr Asp Asn Asn Val Gly Pro Thr Pro 470 475 480
Val Val Asp Trp Glu Thr Thr Asn Val Thr Thr Ser Leu Thr Pro 495 485
Gln Ser Thr Arg Ser Thr Glu Lys Thr Phe Thr Ile Pro Val Thr 500 505 510
Asp Ile Asn Ser Gly Ile Pro Gly Ile Asp Glu Val Met Lys Thr 525
Thr Lys Ile Ile Ile Gly Cys Phe Val Ala Ile Thr Leu Met Ala 530
Ala Val Met Leu Val Ile Phe Tyr Lys Met Arg Lys Gln His His 555
Arg Gln Asn His His Ala Pro Thr Arg Thr Val Glu Ile Ile Asn 560 570
Val Asp Asp Glu Ile Thr Gly Asp Thr Pro Met Glu Ser His Leu 575 580 585
Pro Met Pro Ala Ile Glu His Glu His Leu Asn His Tyr Asn Ser 590 595 600
Tyr Lys Ser Pro Phe Asn His Thr Thr Thr Val Asn Thr Ile Asn 615
Ser Ile His Ser Ser Val His Glu Pro Leu Leu Ile Arg Met Asn 620 625 630
Ser Lys Asp Asn Val Gln Glu Thr Gln Ile 635 640
<210> 293 <211> 4053 <212> DNA
<213 > Homo Sapien
<400> 293 aggeganget geteaagetg caactetgtt geagttggea gttetttteg 50

gtttacetee tgetgtttgg gggeatgaaa ggyettegee geegggagta 100 aaagaaggaa ttgaccggge agegegaggg aggaqegege aegegaeege 150 gagggeggge gtgeaccete ggetggaagt ttgtgeeggg eedegagege 200 gegeeggetg ggagettegg gtagagaeet aggeegetgg acegegatga 250 gegegeegag eetengtgeg egegeegegg ggttgggget getgetgtge 300 geggtgetgg ggegegetgg eeggteegae ageggeggte geggggaact 350 egggeageed tetggggtag eegeegageg eecatgeece actaectgee 400 getgeetegg ggaeetgetg gaetgeagte gtaagegget agegegtett 450 eccgagecae teccgtectg ggtegetegg etggaettaa gteacaacag 500 attatettte ateaaggeaa gtteeatgag eeacetteaa ageettegag 550 aagtgaaact gaacaacaat gaattggaga ccattccaaa tetgggacca 600 gtotoggoaa atattacaot tototoottg gotggaaaca ggattgttga 650 aatactccct gaacatctga aagagtttca gtcccttgaa actttggacc 700 ttagoagoaa caatatttoa gagotooaaa etyoatttoo agoootacag 750 ctcaaatato tgtatotoaa dagcaadoga gtcadatdaa tggaaddtgg 800 gtattttgac aatttggcca acacactcct tgtgttaaag ctgaacagga 850 accgaatoto agotatocca occaagatgt ttaaactgoo ccaactgoaa 900 catctegaat tgaacegaaa caagattaaa aatgtagatg gactgacatt 950 ccaaggcett ggtgetetga agtetetgaa aatgcaaaga aatggagtaa 1000 cgaaacttat ggatggaget ttttggggge tgageaacat ggaaattttg 1050 caqctggacc ataacaacct aacagagatt accaaaggct ggctttacgg 1100 ettgetgatg etgeaggaae tteateteag eeaaaatgee ateaaeagga 1150 teageeetga tgeetgggag ttetgeeaga ageteagtga getggaeeta 1200 actiticaate actiateaag gitagatgat teaagetiee tiggestaag 1250 cttactaaat acactgcaca ttgggaacaa cagagtcagc tacattgctg 1300 attgtgcctt ccgggggctt tccagtttaa agactttgga tctgaagaac 1350 aatgaaattt eetggantat tgaaganatg aatggtgett tetetggget 1400 tgacaaactg aggcqactga tactccaagg aaatcggatc cgttotatta 1450 ctaaaaaagc cttcactggt ttggatqcat tggagcatct agacctqaqt 1500 gadaadgdaa tdatgtottt adaaggdaat gdattttdad aaatgaagaa 1550 actgcaacaa ttgcatttaa atacatcaag ccttttgtgc gattgccagc 1600 taaaatgget eecacagtgg gtggeggaaa acaaetttea gagetttgta 1650 aatgccagtt gtgcccatcc tcagctgcta aaaggaagaa gcatttttgc 1700 tgttagocca gatqqcttlg tgtgtgatga ttttcccaaaa ccccagatca 1750 eggtteagee agaaacaeag teggeaataa aaqgtteeaa tttgagttte 1800 atotgotoag etgecagoag cagtgattee coaatgactt ttgettggaa 1850 aaaagacaat gaactactgc atgatgctga aatggaaaat tatgcacacc 1900 teegggeeca aggtggegag gtgatggagt ataceaceat eetteggetg 1950 cgcgaggtgg aatttgccag tgaggggaaa tatcagtgtg tcatctccaa 2000 teactitiggt teatectact etgicaaage caagettaca giaaataige 2050 ttedeteatt caccaagace eccatggate teaccateeg agetggggee 2100 atggcacget tggagtgtge tgctgtgggg cacccagccc cccagatage 2150 ctggcagaag gatgggggga cagactteec agctgcaegg gagagaegea 5200 tgcatgtgat gcccgaggat gacgtgttct ttatcgtgga tgtgaagata 1350 gaggacattq gggtatacag etgcacaget cagaacagtg caggaagtat 2300 ttcagcaaat gcaactetga etgteetaga aacaccatea tttttgegge 1350 cactgttgga ccgaactgta accaagggag aaacagccgt cctacagtgc 1400 attgctggag gaagceeted ecctaaactg aactggacca angatgataq 1450 cccattggtg gtaaccgaga ggcacttttt tgcagcaggc aatcagcttc ..500 tgattattgt ggactcagat gtcagtgatg ctgggaaata cacatgtgag 2550 atgtetaaca eeettggeae tgagagagga aaegtgegee teagtgtgat 2600 occcaeteca acetgogaet ecceteagat qaeageeeca tegttagaeg 2650 atgacggatg ggccactgtg ggtgtcqtga tcatagccgt qgtttgctgt 2700 gtggtgggda ogtdactogt gtgggtggtd atdatatadd adadaaggdg 2750 yaggaatgaa gattgragca ttaccaacac agatgagacc aacttgcrag 2800 cagatattee tagttatttg teateteagg gaaegttage tgaeaygeag 2850 gatgggtacg tgtcttcaga aagtggaage caccaccagt ttgtcacate 2900 ttdaggtqdt ggatttttdt taddadaada tgadagtagt gggaddtgdd 2950 atattgacaa tagcagtgaa gctgatgtgg aagctgccac agatctgttc 3000 ctttgtccgt ttttgggatc cacaggccct atgtatttga agggaaatgt 3050 gtatggetea gateettttg aaacatatea täeaggttge agteetgaee 3100 caagaacagt tttaatggac cactatgagc ccagttacat aaagaaaaag 3150 gagtgetace catgitetea teetteagaa gaateetgeg aaeggagett 3200 cagtaatata tegtggeett cacatgtgag gaagetaett aacaetagtt 3250 actotoacaa tgaaggacot ggaatgaaaa atotgtgtot aaacaagtoo 3300 tetttagatt ttagtgeaaa teeagageea gegteggttg eetegagtaa 3350 ttettteatg ggtacetttg gaaaagetet eaggagaeet eacetagatg 3400 octattcaag ctttggacag ccatcagatt gtcagccaag agccttttat 3450 ttgaaagete attetteeee agaettggae tetgggteag aggaagatgg 3500 gaaagaaagg acagattttc aggaagaaaa tcacatttgt acctttaaac 3550 agactttaga aaactacagg actccaaatt ttcagtctta tgacttggac 3600 acatagactg aatgagacca aaggaaaagc ttaacatact acctcaagtg 3650 aacttttatt taaaagagag agaatettat gttttttaaa tggagttatg 3700 aattttaaaa ggataaaaat gotttattta tacagatgaa ccaaaattac 3750 aaaaagttat gaaaattttt atactgggaa tgatgctcat ataagaatac 3800 ctttttaaac tattttttaa etttgtttta tgeaaaaaag tatettaegt 3850 aaattaatga tataaatcat gattatttta lgtatttta taatgccaga 3900 tttcttttta tggaaaatga gttactaaag cattttaaat aatacctgcc 3950 ttgtaccatt ttttaaatag aagttactte attatatttt geacattata 4000

aaa 4053 <210> 294 <211> 1119 <212> PRT <213: Homo Sapien Met Ser Ala Pro Ser Leu Arg Ala Arg Ala Ala Gly Leu Gly Leu <400> 294 1 Leu Leu Cys Ala Val Leu Gly Arg Ala Gly Arg Ser Asp Ser Gly Gly Arg Gly Glu Leu Gly Gln Pro Ser Gly Val Ala Ala Glu Arg Pro Cys Pro Thr Thr Cys Arg Cys Leu Gly Asp Leu Leu Asp Cys Ser Arg Lys Arg Leu Ala Arg Leu Pro Glu Pro Leu Pro Ser Trp 65 Val Ala Arg Leu Asp Leu Ser His Asn Arg Leu Ser Phe Ile Lys Ala Ser Ser Met Ser His Leu Gln Ser Leu Arg Glu Val Lys Leu Asn Asn Asn Glu Leu Glu Thr Ile Pro Asn Leu Gly Pro Val Ser 115 Ala Asn Ile Thr Leu Leu Ser Leu Ala Gly Asn Arg Ile Val Glu 130 125 Ile Leu Pro Glu His Leu Lys Glu Phe Gln Ser Leu Glu Thr Leu 145 140 Asp Leu Ser Ser Asn Asn Ile Ser Glu Leu Gln Thr Ala Phe Pro 160 155 Ala Leu Gln Leu Lys Tyr Leu Tyr Leu Asn Ser Asn Arg Val Thr 175 170 Ser Met Glu Pro Gly Tyr Phe Asp Asn Leu Ala Asn Thr Leu Leu 190 Val Leu Lys Leu Asn Arg Asn Arg Ile Ser Ala Ile Pro Pro Lys 200 Met Phe Lys Leu Pro Gln Leu Gln His Leu Glu Leu Asn Arg Asn

۔	215	220	225
Lys Ile Lys Asn	Val Asp Gly Leu Thr 230	Phe Gln Gly Leu Gly 235	Ala 240
Leu Lys Ser Leu	Lys Met Gln Arg Asn 249	Gly Val Thr Lys Leu 250	Met 255
Asp Gly Ala Phe	Trp Gly Leu Ser Asn 260	Met Glu Ile Leu Gln 265	Leu 270
Asp His Asn Asn	Leu Thr Glu Ile Thr 275	Lys Gly Trp Leu Tyr 280	Gly 285
	290	Ser Gln Asn Ala Ile 295	
	305	Cys Gln Lys Leu Sei 310	
	320	Arg Leu Asp Asp Se: 325	
	3.3.5	Leu His Ile Gly As 340	
	350	a Phe Arg Gly Leu Se 355	
	365	n Glu Ile Ser Trp Th 370	
	380	y Leu Asp Lys Leu Ar 385	
	395	g Ser Ile Thr Lys Ly 400	
	410	s Leu Asp Leu Ser A 415	
	425	a Phe Ser Gln Met L 430	
	440	er Ser Leu Leu Cys A 445	
	455	al Ala Glu Asn Asn F 460	
Ser Phe Val As	on Ala Ser Cys Ala H 470	is Pro Gln Leu Leu I 475	ys Gly 480

Aig Sei Ile Phe Ala Val Ser Pio Asp Gly Phe Val Cys Asp Aip 495
Phe Pro Lys Pro Gln Tle Thr Val Gln Pro Glu Thr Gln Ser Ala 500 505
Ile Lys Gly Ser Asn Leu Ser Phe Ile Cys Ser Ala Ala Ser Ser 525
Ser Asp Ser Pro Met Thr Phe Ala Trp Lys Lys Asp Asn Glu Leu 530 540
Leu His Asp Ala Glu Met Glu Asn Tyr Ala His Leu Arg Ala Gln 555 545
Gly Gly Glu Val Met Glu Tyr Thr Thr Ile Leu Arg Leu Arg Glu 560 565
Val Glu Phe Ala Ser Glu Gly Lys Tyr Gln Cys Val Ile Ser Asn 585 575
His Phe Gly Ser Ser Tyr Ser Val Lys Ala Lys Leu Thr Val Asn 590 595 600
Met Leu Pro Ser Phe Thr Lys Thr Pro Met Asp Leu Thr Ile Arg 610 615
Ala Gly Ala Met Ala Arg Leu Glu Cys Ala Ala Val Gly His Pro 620 625
Ala Pro Gln Ile Ala Trp Gln Lys Asp Gly Gly Thr Asp Phe Pro 645
Ala Ala Arg Glu Arg Arg Met His Val Met Pro Glu Asp Asp Val 650 655
Phe Phe Ile Val Asp Val Lys Ile Glu Asp Ile Gly Val Tyr Ser 675
Cys Thr Ala Gln Asn Ser Ala Gly Ser Ile Ser Ala Asn Ala Thr 680 685 690
Leu Thr Val Leu Glu Thr Pro Ser Phe Leu Arg Pro Leu Leu Asp 695 700
Arg Thr Val Thr Lys Gly Glu Thr Ala Val Leu Gln Cys Ile Ala 710 715
Gly Gly Ser Pro Pro Pro Lys Leu Asn Trp Thr Lys Asp Asp Ser 735
Pro Leu Val Val Thr Glu Arg His Phe Phe Ala Ala Gly Asn Gln 750

Leu Leu Ile Ile Val Asp Ser Asp Val Ser Asp Ala Gly Lys Tyr 765 760 765
Thr Cys Glu Met Ser Asn Thr Leu Gly Thr Glu Arg Gly Asn Val 770 775 780
Arg Leu Ser Val Ile Pro Thr Pro Thr Cys Asp Ser Pro Gln Met 795
Thr Ala Pro Ser Leu Asp Asp Asp Gly Trp Ala Thr Val Gly Val
Val Ile Ile Ala Val Val Cys Cys Val Val Gly Thr Ser Leu Val 825
Trp Val Val Ile Ile Tyr His Thr Arg Arg Arg Asn Glu Asp Cys 830 835
Ser Ile Thr Asn Thr Asp Glu Thr Asn Leu Pro Ala Asp Ile Pro 845 850
Ser Tyr Leu Ser Ser Gln Gly Thr Leu Ala Asp Arg Gln Asp Gly 860 865
Tyr Val Ser Ser Glu Ser Gly Ser His His Gln Phe Val Thr Ser 875 880 885
Ser Gly Ala Gly Phe Phe Leu Pro Gln His Asp Ser Ser Gly Thr 890 895
Cys His Ile Asp Asn Ser Ser Glu Ala Asp Val Glu Ala Ala Thr 915 910
Asp Leu Phe Leu Cys Pro Phe Leu Gly Ser Thr Gly Pro Met Tyr 920 925
Asp Leu Phe Leu Cys Pro Phe Leu Gly Ser Thr Gly Pro Met Tyr 920 925 925 930 Leu Lys Gly Asn Val Tyr Gly Ser Asp Pro Phe Glu Thr Tyr His 945
Leu Lys Gly Asn Val Tyr Gly Ser Asp Pro Phe Glu Thr Tyr His
Leu Lys Gly Asn Val Tyr Gly Ser Asp Pro Phe Glu Thr Tyr His 945 935 Thr Gly Cys Ser Pro Asp Pro Arg Thr Val Leu Met Asp His Tyr 960
Leu Lys Gly Asn Val Tyr Gly Ser Asp Pro Phe Glu Thr Tyr His 945 Thr Gly Cys Ser Pro Asp Pro Arg Thr Val Leu Met Asp His Tyr 960 Glu Pro Ser Tyr Ile Lys Lys Lys Glu Cys Tyr Pro Cys Ser His 975 Pro Ser Glu Glu Ser Cys Glu Arg Ser Phe Ser Asn Ile Ser Trp 990
Leu Lys Gly Asn Val Tyr Gly Ser Asp Pro Phe Glu Thr Tyr His 945 Thr Gly Cys Ser Pro Asp Pro Arg Thr Val Leu Met Asp His Tyr 955 Glu Pro Ser Tyr Ile Lys Lys Lys Glu Cys Tyr Pro Cys Ser His 975 Pro Ser Glu Glu Ser Cys Glu Arg Ser Phe Ser Asn Ile Ser Trp 990

1010 1015 1020
Asp Phe Ser Ala Ash Pro Glu Pro Ala Ser Val Ala Ser Ser Ash 1025 1030 1035
Ser Phe Met Gly Thr Phe Gly Lys Ala Leu Arg Arg Pro His Leu 1040 1045
Asp Ala Tyr Ser Ser Phe Gly Gln Pro Ser Asp Cys Gln Pro Arg 1065
Ala Phe Tyr Leu Lys Ala His Ser Ser Pro Asp Leu Asp Ser Gly 1070 1075
Ser Glu Glu Asp Gly Lys Glu Arq Thr Asp Phe Gln Glu Glu Asn 1095
His Ile Cys Thr Phe Lys Gln Thr Leu Glu Asn Tyr Arg Thr Pro 1100 1105
Asn Phe Gln Ser Tyr Asp Leu Asp Thr 1115
<pre><010> 295 <011> 18 <012> DNA <013> Artificial Sequence</pre>
<220> <223> Synthetic Oligonucleotide Probe
<400> 295 ggaadogaat otdagota 18
<pre><210> 295 <211> 19 <211> DNA <113> Artificial Sequence</pre>
20> .223> Synthetic Oligonucleotide Probe
.400> 296 Gotaaactga actggacca 19
<pre>>:10> 297 ::11* 19 <:12* DMA ::13> Artificial Sequence</pre>
.220> .220> .223> Synthetic Oligonucleotide Probe

```
<4005 297
gudtggagad adtgaaddt 19
<110 - 238
<111 - 24
<1:12 > DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 298
 acagetgeae ageteagaae agtg 24
<.:10> 199
 <211> 22
 <212> DNA
<213> Artificial Sequence
 < 220>
 <223> Synthetic Oligonucleotide Probe
 <400> 299
 catteccagt ataaaaattt to 22
 < 110> 300
 .:11> 18
 <:112> DNA
 <213> Artificial Sequence
 4.110>
  <223> Synthetic Oligonucleotide Probe
  <400> 300
  gggtettggt gaatgagg 18
  <210 > 301
  2211 > 24
  <212 > DNA
  «213» Artificial Sequence
  ..220>
  <223 - Synthetic Oligonucleotide Probe
  .400 - 301
   gtgreteteg gttaccacca atgg 24
   -210- 302
   <211> 50
   <212> DNA
   <213> Artificial Sequence
```

```
<233 Synthetic Oligonucleotide Probe
goggodactg ttggaccgaa ctgtaaccaa gggagaaaca gccgtcctac 50
<400 → 302
<210> 303
<211 - 28
<212 s DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 303
 quetttgaca accttdagtd actaqtgg 28
 <210> 304
 <211> 24
 <212> DNA
 <213> Artificial Sequence
 <220>
 <223> Synthetic Oligonucleotide Probe
 <400> 304
  codecatgtgt coatgactgt tooc 24
  2310> 305
  .211> 45
  .212> DNA
  <013> Artificial Sequence
  <2200>
  <223> Synthetic Oligonucleotide Probe
   tactgootca tgacctotto actocottgo atcatottag agogg 45
  <400> 305
  <110> 306
   < 211> 24
   .212> DNA
   «213> Artificial Sequence
   ..220>
   .223> Synthetic Oligonucleotide Probe
   <400> 306
    actocaagga aatoggatoo gtto 24
   <210> 307
   <211> 24
```

199

```
<212 > DNA
<213> Artificial Sequence
<2.0>
<2.3> Synthetic oligonucleotide probe
<400> 307
tragcagety aggatgggea caac 24
<210> 308
<211> 24
<212> DNA
<213> Artificial Sequence
 <.2.3> Synthetic Oligonucleotide Probe
 <400> 308
 actocaagga aatoggatoo gtto 24
 <210> 309
 <211> 50
 <212> DNA
 -213> Artificial Sequence
 <..23> Synthetic Oligonucleotide Probe
  2320>
  geotteantg gtttggatge attggageat etagaeetga gtgaeaaege 50
  .400> 309
  .210> 310
  <211> 3296
  .312> DNA
  <113> Homo Sapien
  .400> 310
   caaaacttgc gtcgcggaga gcgcccaqct tgacttgaat ggaaggagcc 50
    cgagecegeg gagegeaget gagaetgggg gagegegtte ggeetgtggg 100
    gegeegetteg gegeegggge geageaggga aggggaaget gtqqtetgee 150
    ctgctdcacg aggegecaet ggtgtgaace gggagagece etgggtqgte 200
    cogregora tecetectri atatagaaac ettecaeact gggaaggeag 250
    eggegaggea ggagggetea tggtgageaa ggaggeegge tgatetgeag 300
    gogdadagna ttocqagttt adagattttt adagatadda aatggaaggd 350
    gaggaggeag aacageetge etggtteeat caqeeetgge geeeaggege 400
```

atotgaeteg geacececty caggraenat ggeecagage cyggtgetge 450 tgetestget gergetgeeg ecadagetge acetgggade tgtgettgee 500 gtgagggddd daggatttgg ddgaagtggd ggddadagdd tgagdddga 550 agagaacgaa tttgcggagg aggagccggt gctggtactg agccctgagg 600 aqaaagggaa tggaacagaa gaggtaagat gaacaagaga atgtgaatgt 650 todcaggagg gegtegtgga etgtggeggt attgaeetge gtgagttdec 700 gggggaeetg eetgageaca eeaaceaeet atetetgeag aacaaceage 750 tggaaaagat etaceetgag gaqetetece ggetgeaeeg getggagaea 800 ctgaacctgc aaaacaaccg cetgaettee cgagggetee cagagaagge 850 gtttgagdat etgaddaadd tdaattaddt gtadttggdd aataadaagd 900 tgacettgge acceegette etgecaaaeg eeetgateag tgtggaettt 950 getgecaact ateteaceaa gatetatggg eteacetttg gecagaagee 1000 aaacttgagg tetgtgtace tgcacaacaa caagetggea gaegeeggge 1050 tgooggadaa datgttoaad ggotodagda adgtogaggt dotdatdotg 1100 tecagoaact teetgegeea egtgeeeaag cacetgeege etgeeetgta 1150 caagetgeae etcaagaaca acaagetgga gaagateeee eegggggeet 1200 teagegaget gageageetg egegagetat acctgeagaa eaactacetg 1250 actgacgagg gcctggacaa cgagaccttc tggaagctct ccagcctgga 1300 gtadetggat etgtecagea adaacetgte tegggteeda getgggetge 1350 egegeageet ggtgetgetg caettggaga agaaegeeat eeggagegtg 1400 gangegaatg tgetgaeeee eateegeage etggagtace tgetgetgea 1450 cagcaaccag ctgcgggagc agggcatcca cccactggcc ttccagggcc 1500 tcaagoggtt gcacaoggtg cacotgtaca acaaogogot ggagogogtg 1550 decagtgged tgeetegeeg egtgegeade eteatgated tgeadaadda 1600 gateacagge attgggeggg aagaetttge caccadetae tteetggagg 1650 ageteaaset caqetacaac egeateacea geosacaggt geacegegae 1700 genttengea agetgegent getgegeteg etgganntgt ogggnaanng 1750 gotypacaeg etgecaeptg ggetgeeteg aaatgteeat gtgetgaagg 1800 thaagogdaa tgagotggot goottggoad qaggggogot ggogggoatg 1890. geteagetge gtgagetgta ceteaceage aacegaetge geageegage 1300 detgggddee egtgeetggg tggaeetege eeatetgeag etgetggaea 1950 tegeogggaa teageteaca gagateeeeg aggggeteee egagteaett 2000 gagtacetgt acctgcagaa caacaagatt agtgcggtgc ccgccaatgc 2050 ottogactoe angoecaaco toaaggggat otttotoagg tttaacaago 2100 tgggtgtggg cteegtygtg gacagtgdet teeggagget gaagcadetg 1150 caggictigg acatigaagg caacitagag titiggigaca titiccaagga 2000 aggaagagga aacaagatag tgacaaggtg atgcagatgt gacctaggat 2300 gatggaddgd dggadtottt totgdagdad acgddtgtgt gotgtgagdd 1350 deceastotg degtgetead acagadadad deagetgead acatgaggea 1400 trecacatga daegggetga cacagtetea tatececaec cetteccaeg 1450 gogtgtideca eggedagada datgeadada dateadaded teaaacaddo 1500 agotoagoda dadadaadta dootodaaad daddadagto totgtdadad 1550 codeactace getgecaege ectotgaate atgeagggaa gggtetgeec 2500 etgeentgge acadacagge acceattede tedecetget gacatgtgta 2650 tgoglatgea tadadadead adadadada atgdadaagt datgtgegaa 2700 dagdestoca aagnetatge dacagadage tettgededa gedagaatda 2750 gedatagdag etegeogtet godetgteca tetythoogte eqtteentgg 1800 agaagadada agggtatdda tgdtetgtgg ddaggtgddt gddadddtd. 2850 ggaactdada aaagdtggot tttattoott toddatoota tggggadagg 2900 agnoticagg actgotgged tggddtggdd dadddtgdtd dtddaggtgd 2950 tgggdagtda dtotgdtaag agtoddtodd tgodadgodd tggdaggada 3000 caggoacttt tecaatggge aageeeagtg gaggeaggat gggagageee 3050

```
cc'wygtgot getggggeet tgyggeagga gtgaageaga ggtgatgqqg 3100
ct4 gctgag ccagggagga aggacccage tgcacctagg agacaccttt 3150
gttettcagg cetgtggggg aagtteeggg tgeetttatt ttttattett 3200
ttotaaggaa aaaaatgata aaaatotcaa agotgatttt tottgttata 3250
gasaaactaa tataaaagca ttatccctat ccctgcaaaa aaaaaa 3296
<210 > 311
<211> 22
<210> DNA
<213> Artificial Sequence
<2003> Synthetic Oligonucleotide Probe
<400> 311
gcattggccg cgagactttg cc 22
<210> 312
<211> 22
3212> DNA
<213> Artificial Sequence
 <223> Synthetic Oligonucleotide Probe
 <400> 312
 geggecaegg teettggaaa tg 22
 <_10> 313
 < 111> 45
 <212> DNA
 <213> Artificial Sequence
 :223> Synthetic Oligonucleotide Probe
  < 2.20 >
  tggaggaget caaceteage tacaacegea teaceageee acagg 45
  .400> 313
  . 210> 314
  . 211> 3003
  ...12> DNA
  <213> Homo Sapien
   gggaggggc teegggegee gegeageaga eetgeteegg eegegegeet 50
  -400> 314
    egosgotgte eteegggage ggeageagta geeegggegg egagggetgg 100
```

gggttootog agaeteteag aggggegeet eeeateggeg eeeaceacee 150 caacetgite etegegegee aciyegetje geoccaggae eegetgeeca 200 acatggattt teteetggeg etggtgetgg tateeteget etaeetgeag 250 geggeegeeg agttegaegg gaggtggeee aggeaaatag tgteategat 300 tggcctatgt cgttatggtg ggaggattga ctgctgctgg ggctgggctc 350 gccagtcttg gggacagtgt cagcctgtgt gccaaccacg atgcaaacat 400 ggtgaatgta tegggeeaaa caagtgeaag tgteateetg gttatgetgg 450 anaaacctgt aatcaagate taantgagtg tggcctgaag ccccggccct 500 gtaagcacag gtgcatgaac acttacggca gctacaagtg ctactgtctc 550 aacggatata tgctcatgcc ggatggttcc tgctcaagtg ccctgacctg 600 ctccatggca aactgtcagt atggctgtga tgttgttaaa ggacaaatac 650 ggtgccagtg cccatcccct ggcctgcacc tggctcctga tgggaggacc 700 tgtgtagatg ttgatgaatg tgctacagga agagcctcct gccctagatt 750 taggcaatgt gtdaacactt ttgggagdta catctgcaag tgtcataaag 800 gettegatet eatgtatatt ggaggeaaat ateaatgtea tgaeatagae 850 gaatgeteae ttggteagta teagtgeage agetttgete gatgttataa 900 cgtacgtggg tectacaagt gcaaatgtaa agaaggatac cagggtgatg 950 gastgacttg tgtgtatatc ccaaaagtta tgattgaacc ttcaggtcca 1000 atteatgtae caaagggaaa tggtaecatt ttaaagggtg acacaggaaa 1050 taataattgg atteetgatg ttggaagtae ttggtggeet eegaagaeae 1100 catalattee tectateatt accaacagge clacttetaa gecaacaaca 1150 agacetacae caaagecaae accaatteet actocaceae caccaceaec 1200 cetgecaaca gageteagaa caeetetaee aeetacaaee eeagaaagge 1250 caaccaccgg actgacaact atagcaccag ctgccagtac acctccagga 1300 gggattacag ttgacaacag ggtacagaca gaccetcaga aacceagagg 1350 agatgtgttc agtgttctgg tacacagttg taattttgac catggacttt 1400 gtggatggat cagggagaaa gacaatgact tgcactggga accaatcagg 1450 gacccagcag gtggacaata totgacagtg toggcagcca aagccccagg 1500 gggaaaaget geaegettyg tgetacetet eggeegeete atgeatteag 1550 gggacetgtg cetgteatte aggeacaagg tgaegggget geactetgge 1600 acactccagg tgtttgtgag aaaacacggt gcccacggag cagccctgtg 1650 gggaagaaat ggtggccatg gctggaggea aacacagate accttgcgag 1700 gggctgacat caagagegaa tcacaaagat gattaaaggg ttggaaaaaa 1750 agatotatga tggaaaatta aaggaactgg gattattgag ootggagaag 1900 agaagactga ggggcaaacc attgatggtt ttcaagtata tgaagggttg 1950 gcacagagag ggtggcgacc agctgttctc catatgcact aagaatagaa 1900 caagaggaaa ctggcttaga ctagagtata agggagcatt tcttggcagg 1950 ggccattgtt agaatacttc ataaaaaaaag aagtgtgaaa atctcagtat 2000 ctctctctct ttctaaaaaa ttagataaaa atttgtctat ttaagatggt 2050 taaagatgtt ettaeecaag gaaaagtaae aaattataga attteecaaa 2100 agatgttttg atcctactag tagtatgcag tgaaaatctt tagaactaaa [150 taatttggad aaggettaat ttaggdattt deetettgad etdetaatgg 2000 agagggattg aaaggggaag ageccaecaa atgetgaget caetgaaata 2150 tototocott atggcaatoo tagcagtatt aaagaaaaaa ggaaactatt 2300 tattocaaat gagagtatga tggacagata ttttagtato toagtaatgt 1:50 octagtgtgg oggtggtttt caatgtttot toatggtaaa ggtataagoo 2400 tttcatttgt tcaatggatg atgtttcaga ttttttttt tttaagagat 2450 cetteaagga acacagttea gagagatttt categggtge attetetetg .500 cttcgtgtgt gacaagttat cttggctgct gagaaagagt gccctgcccc 2550 acaceggeag accttteett caceteatea gtatgattea gtttetettä 1600 toaattggac totoccaggt tocacagaac agtaatattt titgaacaat 2650 aggtacaata gaaggtette tgtcatttaa eetggtaaag geagggetgg 2700 agggggaaaa taaatcatta agcctttgag taacggcaga atatatggct 2750

gtagátodat ittitaatggi toattioott taiggidata taadigdada 2800 gotgaagatg aaaggggaaa ataaatgaaa attttacttt togatgocaa 2850 tgatacattg cactaaactg atggaagaag ttatccaaag tactgtataa 2900 catcttgttt attatttaat gttttctaaa ataaaaaatg ttagtggttt 2950 tccaaatggc ctaataaaaa caattatttg taaataaaaa cactgttagt 3000 aat 3003 <210> 315 <211> 509 <212> PRT <213> Homo Sapien <400> 315 Met Asp Phe Leu Leu Ala Leu Val Leu Val Ser Ser Leu Tyr Leu 5 Gln Ala Ala Glu Phe Asp Gly Arg Trp Pro Arg Gln Ile Val 20 Ser Ser Ile Gly Leu Cys Arg Tyr Gly Gly Arg Ile Asp Cys Cys Trp Gly Trp Ala Arg Gln Ser Trp Gly Gln Cys Gln Pro Val Cys Gln Pro Arg Cys Lys His Gly Glu Cys Ile Gly Pro Asn Lys Cys Lys Cys His Pro Gly Tyr Ala Gly Lys Thr Cys Asn Gln Asp Leu 85 Asn Glu Cys Gly Leu Lys Pro Arg Pro Cys Lys His Arg Cys Met 100 95 Asn Thr Tyr Gly Ser Tyr Lys Cys Tyr Cys Leu Asn Gly Tyr Met 115 110 Leu Met Pro Asp Gly Ser Cys Ser Ser Ala Leu Thr Cys Ser Met 130 125 Ala Asn Cys Gln Tyr Gly Cys Asp Val Val Lys Gly Gln Ile Arg

145

160

Cys Gln Cys Pro Ser Pro Gly Leu His Leu Ala Pro Asp Gly Arg

Thi Cys Val Asp Val Asp Glu Cys Ala Thi Gly Aig Ala Ser Cys 170 175
Pro Arg Phe Arg Gln Cys Val Asn Thr Phe Gly Ser Tyr Ile Cys 195
Lys Cys His Lys Gly Phe Asp Leu Met Tyr Ile Gly Gly Lys Tyr 205
Gln Cys His Asp Ile Asp Glu Cys Ser Leu Gly Gln Tyr Gln Cys 215
Ser Ser Phe Ala Arg Cys Tyr Asn Val Arg Gly Ser Tyr Lys Cys 230 235
Lys Cys Lys Glu Gly Tyr Gln Gly Asp Gly Leu Thr Cys Val Tyr 245 250
Ile Pro Lys Val Met Ile Glu Pro Ser Gly Pro Ile His Val Fro 260 265 270
Lys Gly Asn Gly Thr Ile Leu Lys Gly Asp Thr Gly Asn Asn 285
Trp Ile Pro Asp Val Gly Ser Thr Trp Trp Pro Pro Lys Thr Pro
Tyr Ile Pro Pro Ile Ile Thr Asn Arg Pro Thr Ser Lys Pro Thr 315
Thr Arg Pro Thr Pro Lys Pro Thr Pro Ile Pro Thr Pro Pro 330
Pro Pro Pro Leu Pro Thr Glu Leu Arg Thr Pro Leu Pro Pro Thr 345
Thr Pro Glu Arg Pro Thr Thr Gly Leu Thr Thr Ile Ala Pro Ala 360 350
Ala Ser Thr Pro Pro Gly Gly Ile Thr Val Asp Asn Arg Val Gln 375 365
Thr Asp Pro Gin Lys Pro Arg Gly Asp Val Pho Ser Val Leu Val 380
His Ser Cys Asn Phe Asp His Gly Leu Cys Gly Trp Ile Ard Glu 405
Lys Asp Asn Asp Leu His Trp Glu Pro Ile Arg Asp Pro Ala Gly
410 415 420 Gly Gln Tyr Leu Thr Val Ser Ala Ala Lys Ala Pro Gly Gly Lys
GIÀ GIU IL

435430 425 Ala Ala Arg Leu Val Leu Pro Leu Gly Arg Leu Met His Ser Gly 44Û Asp Leu Cys Leu Ser Phe Arg His Lys Val Thr Gly Leu His Ser Gly Thr Leu Gln Val Phe Val Arg Lys His Gly Ala His Gly Ala 470 Ala Leu Trp Gly Arg Asn Gly Gly His Gly Trp Arg Gln Thr Gln 485 Ile Thr Leu Arg Gly Ala Asp Ile Lys Ser Glu Ser Gln Arg 500 <210 > 316 <211> 24 <212 > DNA <213> Artificial Sequence <213> Synthetic Oligonucleotide Probe <200> <400> 316 gatggtteet getcaagtge eetg 24 <210> 317 211> 24 <D11> DNA <213> Artificial Sequence <223> Synthetic Oligonucleotide Probe <4(0> 317 ttgcacttgt aggacceaeg tacg 24 <210> 318 <211> 50 . 112> DNA <...13> Artificial Sequence . .:20> ._23> Synthetic Oligonucleotide Probe ctgatgggag gacctgtgta gatgttgatg aatgtgctac aggaagagcc 50 .400> 318 ._10> 319 .211> 2110 <212> DNA

-2135 Homo Sapien

cticittgaa aaggattato acctgatcaq gttctctctg catttgcccc 50 <400> 319 tttagattgt gaaatgtggc tcaaggtctt cacaactttc ctttcctttg 100 caacaggtgc ttgctcgggg ctgaaggtga cagtgccatc acacactgtc 150 catggogtca qaggtcaggo octotaccta coogtocact atggottcca 200 cactecagea teagacatee agateatatg getatttgag agaceceaca 250 caatgeecaa ataettaetg ggetetgtga ataagtetgt ggtteetgae 300 ttggaatace aacacaagtt caccatgatg ccaeccaatg catctetget 350 tateaaceea etgeagttee etgatgaagg caattacate gtgaaggtea 400 acattcaggg aaatggaact ctatctgcca gtcagaagat acaagtcacg 450 gttgatgate etgtcacaaa gecagtggtg cagattcate etceetetgg 500 ggotgtggag tatgtgggga acatgaccot gacatgccat gtggaagggg 550 geactegget agettaceaa tggetaaaaa atgggagaee tgteeacaee 600 agetedadet aetestitte teededaaaad aatageette atattgeted 650 agtaaccaag gaagacattg ggaattacag ctgcctggtg aggaaccctg 700 teagtgaaat ggaaagtgat ateattatge eeateatata ttatggaeet 750 tatggacttc aagtgaattc tgataaaggg ctaaaagtag gggaagtgtt 800 tactgttgac cttggagagg ccatcctatt tgattgttct gctgattctc 850 atococccaa cacctaetoo tggattagga ggactgacaa tactacatat 900 atcattaago atgggootog ottagaagtt goatotgaga aagtagooca 950 gaaqádaatg gadtatgtgt gdtgtgdtta daadaadata addggdaggd 1000 aagatgaaac teattteaca gttateatea etteegtagg aetggagaag 1050 cttgcacaga aaggaaaatc attgtcacct ttagcaagta taactggaat 1100 atcactattt ttgattatat ccatgtgtct tctcttccta tggaaaaaat 1150 atcaacccta caaagttata aaacagaaac tagaaggcag gccagaaaca 1200 gaatacagga aagetcaaac attttcagge catgaagatg etetggatga 1250 etteggaata tatgaattig tigetittee agaigtitet ggigtiteea 1300 ggattccaag caggtctgtt ccagcctctg attgtgtatc ggqqcaagat 1350 ttgcacagta cagtgtatga agttattcaq cacatecetg eccageagea 1400 agaccatcca gagtgaactt tcatgggcta aacagtacat tcgagtgaaa 1450 ttotgaagaa acattttaag gaaaaacagt ggaaaagtat attaatotgg 1500 aatcagtgaa gaaaccagga ccaacacete ttactcatta tteetttaca 1550 tgcagaatag aggcatttat gcaaattgaa ctgcaggttt ttcagcatat 1600 abadaatgto itgtgcaada gaaaaadatg ttggggaaat attootcagt 1650 ggagagtogt totoatgotg acggggagaa cgaaaqtgac aggggtttoc 1700 tcataagttt tgtatgaaat atctctacaa acctcaatta gttctactct 1750 acacttteac tateateaac actgagacta teetgtetea eetacaaatg 1800 tggaaacttt acattgttcg atttttcagc agactttgtt ttattaaatt 1850 tttattagtg ttaagaatgc taaatttatg tttcaatttt atttccaaat 1900 ttctatcttg ttatttgtac aacaaagtaa taaggatggt tgtcacaaaa 1950 acaaaactat geettetett tittiteaat caceagtagt attittgaga 2000 agacttgtga acacttaagg aaatgactat taaagtctta tttttatttt 2050 tttcaaggaa agatggattc aaataaatta ttctgttttt gcttttaaaa 2100 aaaaaaaaaa 2110

Met Tip Leu Lys Val Phe Thr Thr Phe Leu Scr Phe Ala Thr Gly 1

Ala Cys Ser Gly Leu Lys Val Thr Val Pro Ser His Thr Val His

Gly Val Arg Gly Gln Ala Leu Tyr Leu Pro Val His Tyr Gly Phe

His Thr Pro Ala Ser Asp Ile Gln Ile Ile Trp Leu Phe Glu Arg 5,0

<210> 320

<211> 450

<212> FET

<213> Homo Sapien

^{2400&}gt; 320

Pro His Thr Met Pro Lys Tyr Leu Leu Gly Ser Val Asn Lys Ser 75
Val Val Pro Asp Leu Glu Tyr Gln His Lyd Phe Thr Met Met Pro 80
Pro Asn Ala Ser Leu Leu Ile Asn Pro Leu Gln Phe Pro Asp Glu 105
Gly Asn Tyr Ile Val Lys Val Asn Ile Gln Gly Asn Gly Thr Leu 110 115
Ser Ala Ser Gln Lys Ile Gln Val Thr Val Asp Asp Pro Val Thr 135
Lys Pro Val Val Gln Ile His Pro Pro Ser Gly Ala Val Glu Tyn 140 145
Val Gly Asn Met Thr Leu Thr Cys His Val Glu Gly Gly Thr Arg 165
Leu Ala Tyr Gln Trp Leu Lys Asn Gly Arg Pro Val His Thr Ser 170 175
Ser Thr Tyr Ser Phe Ser Pro Gln Asn Asn Thr Leu His Ile Ala 195
Pro Val Thr Lys Glu Asp Ile Gly Asn Tyr Ser Cys Leu Val Arg 205 210
Asn Pro Val Ser Glu Met Glu Ser Asp Ile Ile Met Pro Ile Ile 225
Tyr Tyr Gly Pro Tyr Gly Leu Gln Val Asn Ser Asp Lys Gly Leu 230 235
Lys Val Gly Glu Val Phe Thr Val Asp Leu Gly Glu Ala Ile Leu 255
Phe Asp Cys Ser Ala Asp Ser His Pro Fro Asn Thr Tyr Ser Trp 260 265
and the two His Gly Pro
Ile Arg Arg Thr Asp Asn Thr Thr Tyr Ile Ile Lys His Gly Pro 285
Arg Leu Glu Val Ala Ser Glu Lys Val Ala Gln Lys Thr Met Asp 290 295
Arg Leu Glu Val Ala Ser Glu Lys Val Ala Gln Lys Thr Met Asp

325
Ala Gln Lys Gly Lys Ser Leu Ser Pro Leu Ala Ser Ile Thr Gly 345
Ile Ser Leu Phe Leu Ile Ile Ser Met Cys Leu Leu Phe Leu Trp 360 350
Lys Lys Tyr Gln Pro Tyr Lys Val Ile Lys Gln Lys Leu Glu Gly 375
Arg Pro Glu Thr Glu Tyr Arg Lys Ala Gln Thr Phe Ser Gly His 390
Glu Asp Ala Leu Asp Asp Phe Gly Ile Tyr Glu Phe Val Ala Phe 395 400
Pro Asp Val Ser Gly Val Ser Arg Ile Pro Ser Arg Ser Val Pro 410 415
Ala Ser Asp Cys Val Ser Gly Gln Asp Leu His Ser Thr Val Tyr 435 430
Glu Val Ile Gln His Ile Pro Ala Gln Gln Gln Asp His Pro Glu 445 440
<210> 321 <111> 25 <112> DNA <113> Artificial Sequence
<220> <223> Synthetic Oligonucleotide Probe
<400> 321 gatdetgtea caaageeagt ggtge 25
<110> 322
<pre>*1.11> 24 *112> DNA *113> Artificial Sequence</pre>
0:20> 0:23> Synthetic Oligonucleotide Probe
<400> 122 cactgacagg gttcctcacc cagg 24
<pre>2010> 323 411> 45 <112> DNA <213> Artificial Sequence</pre>

212

<220> <223> Synthetic Oligonucleotide Probe etecetetgg getgtggagt atgtggggaa catgaecetg acatg 45 <400> 323 <210> 324 <211> 2397 <212> DNA <213> Homo Sapien gcaagoggeg aaatggegee eteegggagt ettgeagtte eeetggeagt 50 <400> 324 cetggtgetg ttgetttggg gtgeteeetg gaegeaeggg eggeggagea 100 acgttcgcgt catcacggac gagaactgga gagaactgct ggaaggagac 150 tggatgatag aattttatge eeegtggtge eetgettgte aaaatettea 200 accggaatgg gaaagttttg ctgaatgggg agaagatctt gaggttaata 250 ttgcgaaagt agatgtcaca gagcagccag gactgagtgg acggtttatc 300 ataactgctc ttcctactat ttatcattgt aaagatggtg aatttaggcg 350 ctatcaggqt ccaaggacta agaaggactt cataaacttt ataagtgata 400 aagagtggaa gagtattgag deegttteat eatggtttgg teeaggttet 450 gttotgatga gtagtatgto agoactottt cagotatota tgtggatcag 500 gacgtgccat aactacttta ttgaagacct tggattgcca gtgtggggat 550 catatactgt ttttgcttta gcaactctgt tttccggact gttattagga 600 ctctgtatga tatttgtggc agattgcctt tgtccttcaa aaaggcgcaq 650 accacageca tacceatace etteaaaaaa attattatea gaatetgeae 700 aacetttgaa aaaagtggag gaggaacaag aggeggatga agaagatgtt 750 tcagaagaag aagctgaaag taaagaagga acaaacaaag actttccaca 800 gaatgccata agacaacget etetgggtee ateattggee acagataaat 650 cctagttaaa ttttatagtt atcttaatat tatgattttg ataaaaacag 900 aagattgate attttgtttg gtttgaagtg aactgtgact tttttgaata 950

ttgcagggtt cagtctagat tqtcattaaa ttgaagagtc tacattcaga 1000

adataaaagd adtaggtata daagtttgaa atatgattta agdanagtal 1050 gatggtttaa atagttetet aatttttgaa aaategtgee aageaataag 1100 atttatgtat atttgtttaa taataaccta tttcaagtct gagttttgaa 1150 aatttacatt teecaagtat tgeattattg aggtatttaa gaagattatt 1200 ttagagaaaa atatttetea tttgatataa tttttetetg ttteaetgtg 1250 tgaaaaaaag aagatattto ocataaatgg gaagtttyee cattgtetca 1300 agaaatgtgt atttcagtga caatttcgtg gtctttttag aggtatattc 1350 caaaatttee ttgtattttt aggttatgea aetaataaaa aetaeettae 1400 attaattaat tacagttttc tacacatggt aatacaggal atgctactga 1450 tttaggaagt ttttaägtte atggtattet ettgatteea acaaagtttg 1500 attitetett gtattittet taettaetat gggttaeatt tittattitt 1550 caaattggat gataatttct tggaaacatt ttttatgttt tagtaaacag 1600 tattttttttg ttgtttcaaa ctgaagttta ctgagagatc catcaaattg 1650 aacaatctgt tgtaatttaa aattttggcc acttttttca gattttacat 1700 cattettget gaactteaac ttgaaattgt ttttttttt tttttggatg 1750 tgaaggtgaa catteetgat ttttgtetga tgtgaaaaag eettggtatt 1900 ttacattttg aaaattcaaa gaagettaat ataaaagttt geattetaet 1850 caggaaaaag catettettg tatatgtett aaatgtattt ttgtesteat 1900 atacagaaag ttettaattg attttacagt etgtaatget tgatgtttta 1950 aaataataac atttttatat tttttaaaaag acaaacttca tattatcctg 2000 tgttctttcc tgactggtaa tattgtgtgg gatttcacag gtaaaagtca 1050 gtaggatgga acattitagt gtatttttae teettaaaga getagaatae 1100 atagttttca ccttaaaaga agggggaaaa tcataaatac aatgaatcaa ..150 ctgaccatta cgtagtagac aatttctgta atgtcccctt ctttctaggc 2200 totgttgotg tgtgaatoca ttagatttac agtatogtaa tatacaagtt 2250 ttotttaaag coetotoott tagaatttaa aatattgtac cattaaagag 2300 tttggatgtg taacttgtga tgccttagaa aaatatccta agcacaaaat 2350

aaacctttot aaccacttoa ttaaagotga aadaaaaaaa aadaaaa 2397
aaaddccccc ddooss
<210> 325 <211> 280 <212> PRT
<213> Homo Sapien
<pre><400> 325 Met Ala Pro Ser Gly Ser Leu Ala Val Pro Leu Ala Val Leu Val</pre>
Leu Leu Leu Trp Gly Ala Pro Trp Thr His Gly Arg Arg Ser Asn 25
Val Arg Val Ile Thr Asp Glu Asn Trp Arg Glu Leu Leu Glu Gly 45 35
Asp Trp Met Ile Glu Phe Tyr Ala Pro Trp Cys Pro Ala Cys Gln 50 55
Asn Leu Gln Pro Glu Trp Glu Ser Phe Ala Glu Trp Gly Glu Asp 65 70
Leu Glu Val Asn Ile Ala Lys Val Asp Val Thr Glu Gln Pro Gly 90 80
Leu Ser Gly Arg Phe Ile Ile Thr Ala Leu Pro Thr Ile Tyr His 100
Cys Lys Asp Gly Glu Phe Arg Arg Tyr Glr Gly Pro Arg Thr Lys 110 115
Lys Asp Phe Ile Asn Phe Ile Ser Asp Lys Glu Trp Lys Ser Ile 135
Glu Pro Val Ser Ser Trp Phe Gly Pro Gly Ser Val Leu Met Ser 145 140
Ser Met Ser Ala Leu Phe Gln Leu Ser Met Trp Ile Arg Thr Cys 165
His Asn Tyr Phe Ile Glu Asp Leu Gly Leu Pro Val Trp Gly Ser 170 175
Tyr Thr Val Phe Ala Leu Ala Thr Leu Phe Ser Gly Leu Leu 195
Gly Leu Cys Met Ile Phe Val Ala Asp Cys Leu Cys Pro Ser Lys 200 205
Arg Arg Arg Pro Gln Pro Tyr Pro Tyr Pro Ser Lys Leu Leu

				215					220					225
Ser	Glu	Ser	Ala	Gln 230	Pro	Leu	Lys	Lys	Val 235	Glu	Glu	Glu	Gln	Glu 240
Ala	Asp	Glu	Glu	Asp 245	Val	Ser	Glu	Glu	Glu 250	Ala	Glu	Ser	Lys	Glu 255
Gly	Thr	Asn	Lys	Asp 260	Phe	Pro	Gln	Asn	Ala 265	Ile	Arg	Gln	Arg	Ser 270
Leu	Gly	Pro	Ser	Leu 275	Ala	Thr	Asp	Lys	Ser 280					
<10> 31f <.11> 23 <012> DNA														
<213> Artificial Sequence														
<120> <223> Synthetic Oligonucleotide Probe														
<400> 306 tgaggtgggc aageggegaa atg 23														
<pre>cd10 > 327 cd11 > 20 cd12 > DNA cd13 > Artificial Sequence</pre>														
-1200- -2230 Synthetic Oligonuclectide Probe														
k400> 327 tatgtggatd aggadgtgdd 20														
<21 <21	<pre>%210> 328 %211> 21 <212> DNA %215> Artificial Sequence</pre>													
	.0> 13> (-yntl	netio	c Oli	_gont	ıcle	otid∈	e Pro	obe					
. 43 t.	ni⇒ gdag∙	/28 19tt	c agʻ	totag	gatt	g 2	1							
	<pre>%210> 329 %211> 25 %212> DNA %213> Artificial Sequence</pre>													

<220× <22:> Synthetic Oligonucleotide Probe 240(th 319 ttqaaqqada aaggeaatet gecab 25 <. 10 - 3:0 < 11 45 <.11. DNA <213 Artificial Sequence <.120 > <223 > Synthetic Oligonucleotide Probe <400> 330 mangtetige agiteceety geagleeigg igeigtiget tiggg 45 <210> 331 <311> 2168 <212> DNA <213> Homo Sapien .400> 331 gegagtigted agetgeggag accegtgata attegttaac taatteaaca 50 aacggqaccc ttctgtgtgc cagaaaccgc aagcagttgc taacccagtg 100 ggacaggogg attggaagag cgggaaggte etggeecaga geagtgtgae 150 auttocctot gtgaccatga aactotgggt gtotgcattg ctgatggcot 200 gatttggtgt octgagetgt gtgeaggeeg aattetteae etetattggg 250 cadatgactg acctgattta tgcagagaaa gagctggtgc agtctctgaa 300 agagtacate ettgtggagg aagecaaget ttccaagatt aagagetggg 350 ccaacaaaat ggaagcettg actagcaagt cagetgetga tgetgaggge 400 tacciggete accetgigaa igeetacaaa eiggigaage ggetaaacae 450 agactiqgoot gogotggagg acettgtoot goaggactoa gotgcaggtt 500 ttatogodaa eetetetgtg cageggdagt tetteeccae tgatgaggae 550 dagataggag etgecaaage eetgatgaga etteaggaca eatacagget 600 agadddaggo adaatttoda gagggaadt todaggaadd aagtaddagg 650 caatgotgag tgtggatgac tgctttggga tgggccgctc ggcctacaat 700

gaaggggact attatcatac ggtgttgtgg atggagcagg tgctaaaqca 750

gettgatgee ggggaggagg ceaceacaac caaqteacag gtgetggact 800 acctdageta tgetgtette dagttgggtg atctgeadeg tgedetggag 850 ctcaccegee geetgetete cettgaceea agecaegaae gagetggaqq 900 gaatotgogg taotttgago agttattgga ggaagagaga gaaaaaacgt 950 taacaaatca gacagaaget gagetageaa eeccagaagg catetatgag 1000 aggeetgtgg actacetyee tgagagggat gtttacgaga geetetgteg 1050 tggggagggt gtcaaactga caccccgtag acagaagagg cttttctgta 1100 ggtaccacca tggcaacagg gccccacagc tgctcattgc ccccttcaaa 1150 gagyaggacg agtgggacag cocgcacate gtcaggtact acgatgtcat 1200 gtotgatgag gaaatogaga ggatcaagga gatogcaaaa ootaaacttg 1250 cacgagecae egitegigat eccaagacag gagteeteae igtegecage 1300 taccgggttt ccaaaagctc ctggctagag gaagatgatg accetgttgt 1350 ggcccgagta aatcgtcgga tgcagcatat cacagggtta acagtaaaga 1400 ctgcagaatt gttacaggtt gcaaattatg gagtgggagg acagtatgaa 1450 degradateg acticidad gegaectiit gadagegged teaaaacaga 1500 ggggaatagg ttagcgacgt ttcttaacta catgagtgat gtagaagctg 1550 gtggtgccac cgtcttccct gatctggggg ctgcaatttg gcctaagaag 1600 ggtacagetg tgttetggta caacetettg eggagegggg aaggtgaeta 1650 degaadaaga datgetgeet gedetgtget tgtgggetge aagtgggtet 1700 ccaataagtg gttccatgaa cgaggacagg agttcttgag accttgtgga 1750 traacagaaq tigacigada teetitietg teeticeeet teetggieet 1800 tdagcodatg tdaacgtgad agadadettt gtatgttddt trgtatgttd 1850 ctatdagget gatttttgga gaaatgaatg tttgtctgga gcagagggag 1900 accatactag ggcgactcct gtgtgactga agtcccagcc cttccattca 1950 gestytysea teestyysee saagystagy atsaaaytyy stysaysaga 2000 gttagctgte tagegeetag caaggtgeet ttgtacetca ggtgttttag 2050 gtgtgagatg tttcagtgaa ccaaagttet gataeettgt ttacatgttt 2100 gtttttatgg cätttctatc tattgtggct ttaccaaaaa ataaaatgtc 2150 cctaccagaa aaaaaaaa 2168

actaccagaa aaaawwaa ===
<pre><210> 332 <211> 533 <212> PRT <213> Homo Sapien</pre>
<pre><400> 332 Met Lys Leu Trp Val Ser Ala Leu Leu Met Ala Trp Phe Gly Val</pre>
Leu Ser Cys Val Gln Ala Glu Phe Phe Thr Ser Ile Gly His Met 20 25 30
Thr Asp Leu Ile Tyr Ala Glu Lys Glu Leu Val Gln Ser Leu Lys 35 40 45
Glu Tyr Ile Leu Val Glu Glu Ala Lys Leu Ser Lys Ile Lys Ser 50 55 60
Trp Ala Asn Lys Met Glu Ala Leu Thr Ser Lys Ser Ala Ala Asp 75
Ala Glu Gly Tyr Leu Ala His Pro Val Asn Ala Tyr Lys Leu Val
Lys Arg Leu Asn Thr Asp Trp Pro Ala Leu Glu Asp Leu Val Leu 95 100 105
Gln Asp Ser Ala Ala Gly Phe Ile Ala Asn Leu Ser Val Gln Arg
Gln Phe Phe Pro Thr Asp Glu Asp Glu Ile Gly Ala Ala Lys Ala
Leu Met Arg Leu Gln Asp Thr Tyr Arg Leu Asp Pro Gly Thr Ile 140 145
Ser Arg Gly Glu Leu Pro Gly Thr Lys Tyr Gln Ala Met Leu Ser
Val Asp Asp Cys Phe Gly Met Gly Arg Ser Ala Tyr Asn Glu Gly 170 175 180
Asp Tyr Tyr His Thr Val Leu Trp Met Glu Gln Val Leu Lys Gln 185
Leu Asp Ala Gly Glu Glu Ala Thr Thr Thr Lys Ser Gln Val Leu 200 205

Asp Tyr Leu Se	t Tyr Ala 215	Val Phe	Gln Leu 220	Gly Asp	Leu His Ang 225
Ala Leu Glu Le	u Thr Arg 230	Arg Leu	Leu Ser 235	Leu Asp	Pro Ser His (149)
Glu Arg Ala Gl	y Gly Asn 245	Leu Arg	Tyr Phe	Glu Gln	Leu Leu Glu 255
Glu Glu Arg Gl	u Lys Thr 260	Leu Thr	Asn Gln 265	Thr Glu	Ala Glu Leu 270
Ala Thr Pro Gl	u Gly Ile 275	Tyr Glu	Arg Pro	val Asp	Tyr Leu Pro 285
Glu Arg Asp Va	il Tyr Glu 290	Ser Leu	Cys Arg 295	g Gly Glu 5	Gly Val Lys 300
Leu Thr Pro A	ng Ang Gln 305	Lys Arg	Leu Phe	e Cys Arg	Tyr His His 315
Gly Asn Arg A	la Pro Gln 320	Leu Lei	i Ile Ala 325	a Pro Phe 5	Lys Glu Glu 330
Asp Glu Trp A	sp Ser Pro 335	His Ile	e Val Are	g Tyr Tyr 0	Asp Val Met 345
Ser Asp Glu G	lu Ile Glu 350	a Arg Ile	e Lys Gl 35	u Ile Ala 5	Lys Pro Lys 360
Leu Ala Arg A	la Thr Val 365	Arg As	p Pro L ₇	s Thr Gly	Val Leu Thr 375
Val Ala Ser T	yr Arg Val 380	l Ser Ly	s Ser Se 38	er Trp Let 15	ı Glu Glu Asp 390
Asp Asp Pro V	val Val Ala 395	a Arg Va	l Asn Ar 40	rg Arg Met 00	Gln His Ile 405
Thr Gly Leu 1	Thr Val Ly 410	s Thr Al	a Glu Le 41	eu Leu Gli 15	n Val Ala Asn 420
Tyr Gly Val	Gly Gly Gl 425	n Tyr Gl	u Pro H	is Phe As 30	p Phe Ser Arg 435
Arg Pro Phe	Asp Ser Gl 440	y Leu Ly	ys Thr G 4	lu Gly As 45	n Arg Leu Ala 450
Thr Phe Leu	Asn Tyr Me 455	et Ser A	sp Val G 4	lu Ala Gl 60	y Gly Ala Thr 465
Val Phe Pro	Asp Leu Gl 470	ly Ala A	la Ile T 4	rp Pro Ly 75	rs Lys Gly Thr 480

```
Ala Val Phe Trp Tyr Asn Leu Leu Arg Ser Gly Glu Gly Asp Tyr
                485
Arg Thr Arg His Ala Ala Cys Pro Val Leu Val Gly Cys Lys Trp
                 500
Val Ser Asn Lys Trp Phe His Glu Arg Gly Gln Glu Phe Leu Arg
                 515
Fro Cys Gly Ser Thr Glu Val Asp
<210> 333
<..11> 18
<112> DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
<400> 333
ccaggcacaa tttccaga 18
<210> 334
<211> 19
<212> DNA
<213> Artificial Sequence
<=us> Synthetic Oligonucleotide Probe
<400 > 334
 qgaccettet gtgtgccag 19
 <210> 335
 <211> 19
 <212> DNA
 <213> Artificial Sequence
 <123> Synthetic Oligonucleotide Probe
 .400> 335
 agteteaaga acteetgte 19
 . 210> 336
 <211> 24
 <212> DNA
 <:113> Artificial Sequence
 ·: ,::::0>
 <223> Synthetic Oligonucleotide Probe
```

<4(0> 336 adacticagda tigcctggta citig 24 <210> 337 <211> 45 <112> DNA <213> Artificial Sequence <320> <223> Synthetic Oligonucleotide Probe <400> 337 gggcacatga ctgacctgat ttatgcagag aaagagctgg tgcag 45 <210> 338 <211> 2789 <212> DNA <213> Homo Sapien <400> 338 geagtattga gttttacttc ctcctctttt tagtggaaga cagaccataa 50 teccagtgtg agtgaaattg attgttteat ttattacegt tttggetggg 100 ggttagttcc gacaccttca cagttgaaga gcaggcagaa ggagttgtga 150 agadaggada atottottgg ggatgdtggt ddtggaagdd agegggddtt 200 getetgtett tggeeteatt gaeeceaggt tetetggtta aaactgaaag 250 detactactg geetggtgee cateaateea ttgateettg aggetgtgee 300 cotggggcac ccacctggca gggcctacca ccatgcgact gagctccctg 350 ttggdtetge tgeggeeage getteeeste atettaggge tgtetetggg 400 gtgcagcctg agestectge gggtttestg gatecagggg gagggagaag 450 atocotgtgt ogaggotgta ggggagogag gagggodada gaatocagat 500 togagagoto ggotagacoa aagtqatqaa gaottoaaac cooggattgt 550 cooctactae agggadeeda acaageedta caagaaggtq etcaggadte 600 ggtacatoca gacagagetg ggeteeegtg ageggttget ggtggetgte 650 ctgacctccc gagetacact gtccactttg gccgtggctg tgaaccgtac 700 ggtggcccat cacttccctc ggttactcta cttcactggg cagcgggggg 750

cccgggctcc agcagggatg caggtggtgt ctcatgggga tgagcggccc 800

gnetggetea tgteagagae eetgegeeae etteaeacae actttgggge 850 cgactacgae tggttettea leatgeagga tgacacatat gtgcaggees 900 deegestyge agecettyet gyddaestea geatsaassa agasstytas 950 ttaggeeggg cagaggagtt cattggegea ggegageagg eeeggtaetg 1000 teatygggge tittggetace tgttgteacq gagteteetg ettegtetge 1050 ggccacatet ggatggctgc cgaggagaca ttctcagtgc ccqtcctgac 1100 gagtggcttg gacgctgcct cattgactct ctgggcgtcg gctgtgtctc 1150 acagcaccag gggcagcagt ategeteatt tqaaetggee aaaaataggg 1200 accetgagaa ggaagggage teggetttee tgagtgeett egeegtgeae 1250 cotgtotocg aaggtacoot catgtacogg otocacaaac gottcagogo 1300 totggagttg gagogggott acagtgaaat agaacaactg caggotcaga 1350 tooggaacot gacogtgotg accoocgaag gggaggcagg gotgagotgg 1400 coogttggge tecotgetee ttteacacea cacteteget ttgaggtget 1450 gggetgggas taetteacag ageageacae etteteetgt geagatgggg 1500 ctcccaagtg cccactacag ggggctagca gggcggacgt gggtgatgcg 1550 ttggagactg coctggagca geteaategg egetateage ceegeetgeg 1600 cttocagaag cagogactgo toaacggota toggogotto gaccoagoad 1650 ggggdatgga gtacaccctg gacctgctgt tggaatgtgt gacacagcgt 1700 gggcaccgge gggccctggc tegcagggte agectgetge ggccactgag 1750 degggtggaa atectaecta tgedetatgt caetgagged accegagtge 1800 agetggtqdt gecactectg gtggetgaag etgetgdage eeeggettte 1850 ctogaggogt ttgcagocaa tgtootggag ccacgagaac atgcattgct 1900 caccetgttg etggtetacg ggccaegaga aggtggcegt ggagetecag 1950 acceattict tggggtgaag getgeageag eggagttaga gegaeggtae 2000 cetgggaega ggetggeetg getegetgtg egageagagg eecetteeca 2050 ggtgdgaete atggaegtgg tetegaagaa geaddetgtg gaeadtetet 2100 tetteettae dadegtytyy adaagydety gyddegaagt eeteaadege 2150 tgtegcatga atgecatete tggetggeag geettettte cagtecattt 2200 chaggagtte aatdetgede tgtcaedaca gagateadee deagggeded 1250 egggggetgg ceetgaeece ceetceeete etggtgetga ceeetceegg 2300 ggggdtdeta taggggggag atttgadegg daggettetg eggagggetg 1350 ettetadaac getgactade tggeggeeeg agedeggetg geaggtgaac 2400 tggcaggcca ggaagaggag gaagccctgg aggggctgga ggtgatggat 2450 gttttdatee ggttetcagg getodaeete tttegggeeg tagagecagg D500 gotggtgcag aagttotooc tgcgagactg cageccacgg etcagtgaag 2550 aactetaeca cegetgeege etcageaace tggagggget agggggeegt 1600 geccagetgg ctatggetet etttgageag gageaggeea atageaetta 2650 geoegeetgg gggeeetaae eteattaeet tteetttgte tgeeteagee 2700 ccaggaaggg caaggcaaga tggtggacag atagagaatt gttgctgtat 2750 ttittaaata tgaaaatgtt attaaacatg tettetgee 2789

a110> 239

4211> 772

< 2.12 > PRT

<213> Homo Sapien

<400> 339

Met Arg Leu Ser Ser Leu Leu Ala Leu Leu Arg Pro Ala Leu Pro 10

Leu Ile Leu Gly Leu Ser Leu Gly Cys Ser Leu Ser Leu Leu Arg

Val Ser Trp Ile Gln Gly Glu Gly Glu Asp Pro Cys Val Glu Ala 35

Val Gly Glu Arg Gly Gly Pro Gln Asn Pro Asp Ser Arg Ala Arg

Leu Asp Gln Ser Asp Glu Asp Phe Lys Pro Arg Ile Val Pro Tyr

Tyr Arg Asp Pro Asn Lys Pro Tyr Lys Lys Val Leu Arg Thr Arg

Tyr Ile Gln Thr Glu Leu Gly Ser Arg Glu Arg Leu Leu Val Ala

g	15	10()		105
Val Leu Thr Ser Ai	g Ala Thr I	Leu Ser Thr 115	Leu Ala Val	Ala Val 120
Asn Arg Thr Val Al	la His His I 25	Phe Pro Arg 130	Leu Leu Tyr	Phe Thr 125
Gly Gln Arg Gly A	la Arg Ala 1 40	Pro Ala Gly 145	y Met Gln Val	Val Ser 150
His Gly Asp Glu A	rg Pro Ala ' 55	Trp Leu Met 160	t Ser Glu Thr	Leu Arg 165
His Leu His Thr H	is Phe Gly	Ala Asp Ty:	r Asp Trp Phe 5	Phe Ile 180
Met Gln Asp Asp T	hr Tyr Val 85	Gln Ala Pr 19	o Arg Leu Ala O	Ala Leu 195
Ala Gly His Leu S	Ser Ile Asn	Gln Asp Le	u Tyr Leu Gly 5	Arg Ala 210
	115		. 0	
Gly Phe Gly Tyr	Leu Leu Ser 230	Arg Ser Le	eu Leu Leu Arg 35	J Leu Arg 240
	245			
	260		33	
Cys Val Ser Gln	275	-		
Ala Lys Asn Arg	290	_	,,,	
Ser Ala Phe Ala	305	,	, , , ,	
Arg Leu His Lys	320	-	,23	
Ser Glu Ile Glu	335	-	340	
Leu Thr Pro Glu	Gly Glu Al	a Gly Leu S	Ser Trp Pro V 355	al Gly Leu 360

Pro Ala Pro Phe Thi Pro His Ser Arg Phe Glu Val Leu Gly Trp 365 370 375
Asp Tyr Phe Thr Glu Gln His Thr Phe Ser Cys Ala Asp Gly Ala 390
Pro Lys Cys Pro Leu Gln Gly Ala Ser Arg Ala Asp Val Gly Asp 405
Ala Leu Glu Thr Ala Leu Glu Gln Leu Asn Arg Arg Tyr Gln Pro 410 415
Arg Leu Arg Phe Gln Lys Gln Arg Leu Leu Asn Gly Tyr Arg Arg 435 435
Phe Asp Pro Ala Arq Gly Met Glu Tyr Thr Leu Asp Leu Leu 440 445
Glu Cys Val Thr Gln Arg Gly His Arg Arg Ala Leu Ala Arg Arg 465
Val Ser Leu Leu Arg Pro Leu Ser Arg Val Glu Ile Leu Pro Met 470 475 480
Pro Tyr Val Thr Glu Ala Thr Arg Val Gln Leu Val Leu Pro Leu 495
Leu Val Ala Glu Ala Ala Ala Ala Pro Ala Phe Leu Glu Ala Phe 500 505
Ala Ala Asn Val Leu Glu Pro Arg Glu His Ala Leu Leu Thr Leu 525
Leu Leu Val Tyr Gly Pro Arg Glu Gly Gly Arg Gly Ala Pro Asp 530 540
Pro Phe Leu Gly Val Lys Ala Ala Ala Ala Glu Leu Glu Arg Arg 555 545
Tyr Pro Gly Thr Arg Leu Ala Trp Leu Ala Val Arg Ala Glu Ala 565 570
Pro Ser Gln Val Arg Leu Met Asp Val Val Ser Lys Lys His Pro 575 580 585
Val Asp Thr Leu Fhe Phe Leu Thr Thr Val Trp Thr Arg Pro Gly 595 600
Pro Glu Val Leu Asn Arg Cys Arg Met Asn Ala Ile Ser Gly Trp 615 610
Gln Ala Phe Phe Pro Val His Phe Gln Glu Phe Asn Pro Ala Leu 630

Ser Pro Gln Arg Ser Pro Pro Gly Pro Pro Gly Ala Gly Pro Asp 645
Pro Pro Ser Pro Pro Gly Ala Asp Pro Ser Arg Gly Ala Pro Ile 650 655 660
Gly Gly Arg Phe Asp Arg Gln Ala Ser Ala Glu Gly Cys Phe Tyr 675
Asn Ala Asp Tyr Leu Ala Ala Arg Ala Arg Leu Ala Gly Glu Leu 680 685 690
Ala Gly Gln Glu Glu Glu Ala Leu Glu Gly Leu Glu Val Met 695 700 705
Asp Val Phe Leu Arg Phe Ser Gly Leu His Leu Phe Arg Ala Val 710 715 720
Glu Pro Gly Leu Val Gln Lys Phe Ser Leu Arg Asp Cys Ser Pro 735 735
Arg Leu Ser Glu Glu Leu Tyr His Arg Cys Arg Leu Ser Asn Leu 740 745 750
Glu Gly Leu Gly Gly Arg Ala Gln Leu Ala Met Ala Leu Phe Glu 765 760 765
Gln Glu Gln Ala Asn Ser Thr 770
<210> 340 <211> 1572 <212> DNA <213> Homo Sapien
<400> 340 cggagtggtg cgccaacgtg agaggaaacc cgtgcgcggc tgcgctttcc 50
tgtccccaag ccgttctaga cgcgggaaaa atgctttctg aaagcagctc 100
ctttttgaag ggtgtgatgc ttggaagcat tttctgtgct ttgatcacta 150
tgctaggada dattaggatt ggtdatggaa atagaatgda ddaddatgag 200
catcatcacc tacaagetee taacaaagaa gatatettga aaattteaga 250
ggatgagege atggagetea gtaagagett tegagtatae tgtattatee 300
ttgtaalacc caaagatgtg agtctttggg ctgcagtaaa ggagacttgg 350
accaaacact gtgacaaagc agagttette agttetgaaa atgttaaagt 400

gtttgagtca attaatatgg acacaaatga catgtggtta atgatgagaa 450 aagsttacaa ataegeettt gataagtata gagaccaata caactggttc 500 tteettgeae geeecactae gtttgetate attgaaaace taaagtattt 550 tttgttaaaa aaggatccat cacagccttt ctatctaggc cacactataa 600 aatctggaga cettgaatat gtgggtatgg aaggaggaat tgtettaagt 650 gtagaatcaa tgaaaagact taacagcctt ctcaatatcc cagaaaagtg 700 teetgaacag ggagggatga tttggaagat atetgaagat aaacagetag 750 cagtttgeet gaaatatget ggagtatttg cagaaaatge agaagatget 800 gatggaaaag atgtatttaa taccaaatct gttgggcttt ctattaaaga 850 ggcaatgact tatcacccca accaggtagt agaaggctgt tgttcagata 900 tggctgttac ttttaatgga ctgactccaa atcagatgca tgtgatgatg 950 tatggggtat accgccttag ggcatttggg catattttca atgatgcatt 1000 ggttttctta cctccaaatg gttctgacaa tgactgagaa gtggtagaaa 1050 agogtgaata tgatotttgt ataggaogtg tgttgtoatt atttgtagta 1100 gtaactacat atccaataca getgtatgtt tetttttett ttetaatttg 1150 gtggcactgg tataaccaca cattaaagtc agtagtacat ttttaaatga 1200 gggtggtttt tttetttaaa acacatgaac attgtaaatg tgttggaaag 1250 aägtgtttta agaataataa ttttgcaaat aaactattaa taaatattat 1300 atgtgataaa ttctaaatta tgaacattag aaatctgtgg ggcacatatt 1350 titgctgatt ggttaaaaaa tittaacagg totttagcgt totaagatat 1400 graaatgata tototagttg tgaatttgtg attaaagtaa aacttttago 1450 tgtgtgttdd dtilacttdt aatactgatt tatgttdtaa godtddddaa 1500 gttccaatgg atttgccttc tcaaaatgta caactaagca actaaagaaa 1550 attaaagtga aagttgaaaa at 1572

<210> 341

a211> 318

<±12> PRT

^{:213&}gt; Homo Sapien

<pre><400> 341 Met Leu Ser Glu Ser Ser Ser Phe Leu Lys Gly Val Met Leu Gly 15 1</pre>
Ser Ile Phe Cys Ala Leu Ile Thr Met Leu Gly His Ile Arg Ile 30 20
Gly His Gly Asn Arg Met His His His Glu His His His Leu Gln 45
Ala Pro Asn Lys Glu Asp Ile Leu Lys Ile Ser Glu Asp Glu Arg 50 55
Met Glu Leu Ser Lys Ser Phe Arg Val Tyr Cys Ile Ile Leu Val 65
Lys Pro Lys Asp Val Ser Leu Trp Ala Ala Val Lys Glu Thr Trp 90
Thr Lys His Cys Asp Lys Ala Glu Phe Phe Ser Ser Glu Asn Val 95
Lys Val Phe Glu Ser Ile Asn Met Asp Thr Asn Asp Met Trp Leu 110
Met Met Arg Lys Ala Tyr Lys Tyr Ala Phe Asp Lys Tyr Arg Asp 135
Gln Tyr Asn Trp Phe Phe Leu Ala Arg Pro Thr Thr Phe Ala Ile 140
Ile Glu Asn Leu Lys Tyr Phe Leu Leu Lys Lys Asp Pro Ser Gln 165
Pro Phe Tyr Leu Gly His Thr Ile Lys Ser Gly Asp Leu Glu Tyr 170 175
Val Gly Met Glu Gly Gly Ile Val Leu Ser Val Glu Ser Met Lys 195
Arg Leu Asn Ser Leu Leu Asn Ile Pro Glu Lys Cys Pro Glu Gln 200 205
Gly Gly Met Ile Trp Lys Ile Ser Glu Asp Lys Gln Leu Ala Val 225
Cys Leu Lys Tyr Ala Gly Val Phe Ala Glu Asn Ala Glu Asp Ala 230 235
Asp Gly Lys Asp Val Phe Asn Thr Lys Ser Val Gly Leu Ser Ile 255
Lys Glu Ala Met Thr Tyr His Pro Asn Gln Val Val Glu Gly Cys

270 265 260 Cys Ser Asp Met Ala Val Thr Phe Ash Gly Leu Thi Pio Ash Gln 275 Met His Val Met Met Tyr Gly Val Tyr Arg Leu Arg Ala Phe Gly His Ile Phe Asn Asp Ala Leu Val Phe Leu Pro Pro Asn Gly Ser 305 Asp Asn Asp <210 > 342 <211> 23 <210> DNA <213> Artificial Sequence <223> Synthetic Oligonucleotide Probe <400> 342 tecccaagee gttetagaeg egg 23 < 10> 343 <211> 18 ...13> DNA ...13> Artificial Sequence .223> Synthetic Oligonucleotide Probe <400 > 343 ctggttette ettgeaeg 18 .210> 344 3211> 25 <212> DNA <_13> Artificial Sequence 0223> Synthetic Oligonucleotide Probe <400> 344 geecaaatge cetaaggegg tataceec 28 <210> 345 <211> 50 3212> DNA <213> Artificial Sequence

<220>

```
<223 - Synthetic Oligonucleotide Probe
gggtgtgatg cttggaagca ttttctgtgc tttgatcact atgctaggac 50
<400 = 34°
<210 - 346
<211 / 25
<2112 DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
 <406 > 346
 gggatqcagq tggtgtctca tgggg 25
 <210> 347
 <211> 18
 <212> DNA
 <213> Artificial Sequence
 <223> Synthetic Oligonucleotide Probe
 <400> 347
  coctoatgta coggeted 18
  k210> 349
  -211> 48
  C2125 DNA
  <213> Artificial Sequence
  &dl3> Synthetic Oligonucleotide Probe
   ggattotaat acgaeteaet atagggetea gaaaagegea acagagaa 48
  <400> 348
   <210> 349
   <211> 47
   .212> DNA
   ...13: Artificial Sequence
   0123. Synthetic Oligonucleotide Probe
    ctatgaaatt aaccetcact aaagggatgt cttecatgec aacctte 47
    <400× 349
    .210: 350
    .211 . 48
    .1.11 - DNA
    <210 > Artificial Sequence
```

```
<2.0>
<2... Synthetic Oligonucleotide Probe
quartetaat aegaeteaet atagggegge gatgteeaet ggggetae 48
<41. 350
<210 - 351
<211 > 48
<111.5 DNA
<113> Artificial Sequence
<...20>
<233> Synthetic Oligonucleotide Probe
 ctatgaaatt aacceteact aaagggaega ggaagatggg eggatggt 48
 <4005 351
 <210> 352
 <211> 47
 <212> DNA
 Autificial Sequence
 .220>
 <223> Synthetic Oligonucleotide Probe
  Hattitiat acgaeteact atagggeace caegegteeg getgett 47
 .400> 352
  ...:10> 353
  . _11> 48
  .212 DHA
  - 113 > Artificial Sequence
  . 220>
  .23> Synthetic Oligonucleotide Probe
   etatgaaatt aacceteaet aaagggaegg gggaeaeeae ggaeeaga 48
  . 400> 353
  .110> 354
   ...11> 48
    .112> DNA
  ...135 Artificial Sequence
   . .:20>
   -_23> Jynthetic Oligonucleotide Probe
    ggattotaat acgactoact atagggottg etgeggtttt tgtteetg 48
   -400> 354
   .210 - 355
   <211> 48
```

```
<212~ DNA
<21: Artificial Sequence
<223 - Synthetic Oligonucleotide Probe
<2200
 ctatgaaatt aacceteact aaagggaget geegateeea etggtatt 48
<4005 355
<210> 356
<211> 46
<212 > DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
 ggattctaat acgactcact atagggegga teetggeegg eetetg 46
 <400> 356
 <210> 357
 <211> 48
 <212> DNA
 <213> Artificial Sequence
 <223> Synthetic Oligonucleotide Probe
  rtatgaaatt aacceteact aaagggagee egggeatggt eteagtta 48
  <400> 357
  -210> 358
  <211> 47
  .212> DNA
  <213> Artificial Sequence
  .223> Synthetic Oligonucleotide Probe
   ggattetaat acgaeteact atagggeggg aagatggega ggaggag 47
  .400> 358
  ...10> 359
   . 11> 48
   ...12> DNA
   ...13 > Artificial Sequence
   .220>
   ...23> Synthetic Oligonucleotide Probe
    ctatgaaatt aacceteact aaagggacea aggeeacaaa eggaaate 48
   . 400> 359
```

```
<210 > 360
\texttt{<}211 \cdot 48
ANG . BIES
<213. Artificial Sequence
<2215 Synthetic Oligonucleotide Probe
<120 >
 ggattotaat acgaetcaet atagggetgt gettteatte tgeeagta 48
<400 > 360
<210> 361
 <211> 48
 <217> DNA
 <213> Artificial Sequence
 <223> Synthetic Oligonucleotide Probe
  ctatgaaatt aacceteaet aaagggaggg tacaattaag gggtggat 48
 <400> 361
 <210> 362
  <111> 47
  <212> DNA
  <213> Artificial Sequence
  <323. Synthetic Oligonucleotide Probe</pre>
   agastictaat acgaeteact atagggeeeg ectegeteet geteetg 47
  <400> 362
  .210> 363
  <:11> 48
   ._12> DNA
  ₹220>
   <..2>> Synthetic Oligonucleotide Probe
   otatgaaatt aacceteaet aaagggagga tigeegegae eeteaeag 48
   <4005 363
   ._10: 264
   . _11 . 47
    JUL12 - DNA
   <213 Artificial Sequence
    ≥220×
    v223> Synthetic Oligonucleotide Probe
    <400> 364
```

```
ggattetaat acgaeteact atagggeece teetgeette eetgtee 47
<210, 365
<211> 48
<212 - DNA
<213 Artificial Sequence
<320>
<223> Synthetic Oligonucleotide Probe
 ctatgaaatt aacceteaet aaagggagtg gtggeegega ttatetge 48
<400> 365
<210 > 366
<211 > 48
 <210> DNA
 >213> Artificial Sequence
 <222> Synthetic Oligonucleotide Probe
  ggattctaat acgaetcact atagggegea gegatggeag egatgagg 48
 <400> 366
 <210> 367
  <211> 47
  <112> DNA
  <213> Artificial Sequence
  <1110>
  <223> Synthetic Oligonucleotide Probe
   ctatgaaatt aaccetcact aaagggacag acggggcaga gggagtg 47
  <400> 367
  <210> 368
  <211> 47
  <212> DNA
  <213> Artificial Sequence
   8223> Synthetic Oligonucleotide Probe
    ggattetaat aegaeteaet atagggeeag gaggegtgag gagaaae 47
   <400> 368
   <210> 369
   <211> 48
    .212> DNA
    <213> Artificial Sequence
    < 220>
```

```
<2:: - Synthetic Oligonucleotide Probe
<400 > 369
ctutgaaatt aachnthact aaaqqqaaag acatgtoato gggagtgg 48
<210> 370
<1111 > 48
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 370
 guattotaat acgactoact atagggcogg gtggaggtgg aacagaaa 48
<110> 371
<211> 48
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic Oligonucleotide Probe
<400> 371
 ctatgaaatt aacceteaet aaagggaeae agaeagagee eeataege 48
 k210> 372
 <211> 47
 <:212> DNA
 <_13> Artificial Sequence
 < 220>
 <123> Synthetic Oligonucleotide Probe
 <400> 372
  ggattetaat aegaeteaet atagggeeag ggaaateegg atgtete 47
  < 210> 373
  <211> 48
  <212> DNA
  < 213> Artificial Sequence
  <_20>
  <223> Synthetic Oligonucleotide Probe
  rtatgaaatt aacceteact aaagggagta aggggatgee accgagta 48
  . 400> 373
  <210> 374
  < 11> 47
  <212> DNA
  <213> Artificial Sequence
```

```
<220>
<2.3> Synthetic Oligonucleotide Probe
gyattotaat acgaeteact atagggeeag etaceegeag gaggagg 47
<400> 374
<110> 375
<111> 48
<212> DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
<400> 375
 ctatgaaatt aacceleact aaagggatee caggtgatga gytecaga 48
<110> 376
 <211> 997
 <212> DNA
 <213> Homo Sapien
 cccacgcgtc cgatcttacc aacaaaacac tcctgaggag aaagaaagag 50
 <100> 376
  aaaaaatgaa ttoatotaaa toatotgaaa dacaatgoac agaqagagga 150
  tgcttctctt cccaaatgtt cttatggact gttgctggga tccccatcct 200
  atttctcagt gootgtttca toaccagatg tgttgtgaca tttcgcatct 250
  ttcaaacctg tgatgagaaa aagtttcagc tacctgagaa tttcacagag 300
  ctctcctgct acaattatgg atcaggttca gtcaagaatt gttgtccatt 350
   gaactgggaa tattttcaat ccagctgcta cttcttttct actgacacca 400
   tttcctgggc gttaagttta aagaactgct cagccatggg ggctcacetg 450
   taaaatgaga gagtttttta ttggactgtc agaccaqgtt gtcgaqggtc 550
   agtggcaatg ggtggacqqc acacctttga caaagtctct gagcttctgg 600
   gatgtagggg agcccaacaa catagctacc ctggaggact gtgccaccat 650
   gagagactet teaaacecaa ggeaaaattg gaatgatgta acetgtttee 700
    tcaattattt toggatttgt gaaatggtag gaataaatcc tttgaacaaa 750
```

ggaaaatoto tttaagaaca gaaqqoacaa otcaaatgrg taaaqaagga 800 agagcaayaa catggccaca cccaccgccc cacacgagaa atttgtgcgc 850 tgaacttcaa aggacttcat aagtatttgt tactctgata caaataaaaa 900 <210> 377 <211> 219 <212> PRT <213> Homo Sapien Met Asn Ser Ser Lys Ser Ser Glu Thr Gln Cys Thr Glu Arg Gly <400> 377 Cys Phe Ser Ser Gln Met Phe Leu Trp Thr Val Ala Gly Ile Pro Ile Leu Phe Leu Ser Ala Cys Phe Ile Thr Arg Cys Val Val Thr Phe Arg Ile Phe Gln Thr Cys Asp Glu Lys Lys Phe Gln Leu Pro Glu Asn Phe Thr Glu Leu Ser Cys Tyr Asn Tyr Gly Ser Gly Ser 65 Val Lys Asn Cys Cys Pro Leu Asn Trp Glu Tyr Phe Gln Ser Ser Cys Tyr Phe Phe Ser Thr Asp Thr Ile Ser Trp Ala Leu Ser Leu Lys Asn Cys Ser Ala Met Gly Ala His Leu Val Val Ile Asn Ser 110 Gln Glu Glu Glu Phe Leu Ser Tyr Lys Lys Pro Lys Met Arg 130 125 Glu Phe Phe Ile Gly Leu Ser Asp Gln Val Val Glu Gly Gln Trp 140 Gln Trp Val Asp Gly Thr Pro Leu Thr Lys Ser Leu Ser Phe Trp 160 Asp Val Gly Glu Pro Asn Asn Ile Ala Thr Leu Glu Asp Cys Ala

```
Thi Met Aig Asp Sei Sei Ash Pio Aig Gln Ash Trp Ash Asp Val
                185
Thr Cys Phe Leu Asn Tyr Phe Arg Ile Cys Glu Met Val Gly Ile
                                     205
                 200
Asn Pro Leu Asn Lys Gly Lys Ser Leu
                 215
<110> 378
<211> 21
<212> DNA
<213> Artificial Sequence
<223> Synthetic Oligonucleotide Probe
<400> 378
ttcagettet gggatgtagg g 21
<210> 379
<211> 24
<212> DNA
<..13> Artificial Sequence
 <0000>
-:::3> Synthetic Oligonucleotide Probe
 <4005 379
 tattoctaco atttoacaaa teeg 24
 . 210: 380
 e.:11:- 49
 CL12> DNA
 <:13 Artificial Sequence</pre>
 CD203
 *223 - Synthetic oligonucleotide probe
  ugangactgt gccaccatga gagactette aaacccaagg caaaattgg 49
 . 400 > 380
  ...10> 381
  . 111> 26
  . _12> DNA
  .213> Artificial Sequence
  232 Os
  .223> Synthetic oligonucleotide probe
  <400> 381
   gragattttg aggacageca eeteca 26
```

```
2210 > 382
<211 - 18
<21. - DNA
<21). Artificial Sequence
<2200>

Synthetic oligonucleotide probe
<400 - 382
 ggnettydag adaadegt 18
<110> 383
<311> 21
 <213 > DNA
 <:11:> Artificial Sequence
 <!!!> Synthetic oligonucleotide probe
 <400> 383
 cagactgagg gagatccgag a 21
 ..210> 384
 0.11> 20
 RIID SELLS
  213> Artificial Sequence
  v...3> Synthetic oligonucleotide probe
  · ....9 >
  .400> 384
  dagatgoodt todocaacca 20
  >210> 385
  ...11> 18
  . 112 > DNA
  113> Artificial Sequence
  > 230>
  - 222> Synthetic oligonucleotide probe
  . 400> 385
   natcaagogo otetacca 18
   ._10> 386
   . .11> 21
    212> DNA
   <:13> Artificial Sequence
   . 220>
   0.223> Synthetic oligonucleotide probe
   <400> 386
```

```
camaaacteg aactgettet g 21
<210> 387
<211 - 18
<112 - DNA
<::13> Artificial Sequence
<220 >
<223> Synthetic oligonucleotide probe
<400> 387
 gggccatcac ageteect 18
<210> 388
<211> 22
<212> LNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
 <400> 388
 gggatgtggt gaacacagaa ca 22
 <210> 389
 <211> 22
  _12> DNA
 ~213> Artificial Sequence
 <220>
 <223> Synthetic oligonucleotide probe
 .400> 389
  tgccagctgc atgctgccag tt 22
 <210> 390
  <211> 20
  <212> DNA
  <213> Artificial Sequence
  ...23> Synthetic oligonucleotide probe
  . 100> 390
  nagaaggatg teeegtggaa 20
  .210> 391
  <211> 17
  ~212> DNA
  213> Artificial Sequence
```

·. _ 20>

```
<\!27.2\!\!\times Synthetic oligonucleotide probe
<410. 391
gargetgtee actgcag 17
<210> 392
<111 - 21
<1112 > DNA
<213> Artificial Sequence
<1_Û>
<223> Synthetic oligonucleotide probe
<400> 392
 qaeggeated teagggeead a 21
 <210> 393
 <211> 20
 <212> DNA
<213> Artificial Sequence
< 220>
 <223> Synthetic oligonucleotide probe
 <400> 393
  atgtesteca tgeccaegeg 20
 . _10> 394
 2011> 20
 . 212> DNA
 .213> Artificial Sequence
  <210>
  <223> Synthetic oligonucleotide probe
  <400> 394
  yagtgogada togagagott 20
  2210> 395
  -.11 - 18
  CD12> DNA
  -113> Artificial Sequence
  - 220>
  -223> Synthetic oligonucleotide probe
   .400> 395
   cogcagodto agtgatga 18
   .210> 396
   .111. 21
   -212> DNA
   %213> Artificial Sequence
```

```
<2000

Synthetic oligonucleotide probe
<401 - 395
gaagagdada gotgdagato o 21
<110> 397
<211> 22
<212 > DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 397
 gaggtgteet ggetttggta gt 22
<210> 398
<211> 20
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
×400> 398
 optotggogo condactdaa 20
 <210> 399
 <211> 18
 .212> DNA
 <213> Artificial Sequence
 <2220>
 <400> 399
  ccaggagage tggcgatg 18
 .210> 400
 .211> 23
 .112> DNA
 <213> Artificial Sequence
  3.20≥
 23> Synthetic oligonucleotide probe
  <4000
  gcaaattcag ggctcactag aga 23
  _10> 401
  <_11> 29
```

```
<212> ENA
<21 - Artificial Sequence
<2200 -
<22: Synthetic oligonucleotide probe
<400> 401
cacagageat tigiceatea geagiteag 29
<210> 402
<211> 22
<212> DNA
<213> Artificial Sequence
<223> Synthetic oligonucleotide probe
<400> 402
 ggcagagact tccagtcact ga 22
<210> 403
<211> 22
<113> DNA
<213> Artificial Sequence
 <223> Synthetic oligonucleotide probe
 <400> 403
 ghdaagagtg gtgttagata gg 22
 < 1:10> 404
 <211> 24
 .212> DNA
 <213> Artificial Sequence
 <2200>
  <223> Synthetic oligonucleotide probe
  .400> 404
  caggordect tgatetgtae ceea 24
  .210> 405
  ...11: ..3
  <.i12> DNA
  213 · Artificial Sequence
  <2220>
  <223> Synthetic oligonucleotide probe
  .400> 405
   gggacgtgct tctacaagaa cag 23
```

```
2210- 406
<211 - 26
<1.12 + DNA
<::1: Artificial Sequence</pre>
<121:0
<2.33> Synthetic oligonucleotide probe
<400> 405
daggettaca atgttatgat dagada 26
<210 > 407
<211> 31
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
 <400> 407
 tattcagagt tttccattgg cagtgccagt t 31
<210> 408
 .011> 21
 <212> DNA
 <213> Artificial Sequence
 a 2 2 0 %
 <223> Synthetic oligonucleotide probe
 <400> 408
  totacatoag octototgog c 21
  <210> 409
  <211 > 23
  <213> Artificial Sequence
  <233> Synthetic oligonucleotide probe
  400> 409
  egatettete caeccaggag egg 23
  . 110> 410
  . .:11> 18
  + 212> DNA
  <_13> Artificial Sequence
  ₹320>
  -323> Synthetic oligonucleotide probe
   <400> 410
```

```
grdaggodto adattogt 18
<110> 411
<1.115 23
<113> DNA
<br/>
<br/>
Artificial Sequence
<2200>
<223> Synthetic oligonucleotide probe
<400> 411
ctccctgaat ggcagcctga gca 23
<210> 412
<111> 24
<211> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 412
aqqtgtttat taagggccta cgct 24
<210> 413
.211> 19
*L12> DNA
 213> Artificial Sequence
 #220>
 &2.33 Synthetic oligonucleotide probe
 ×400 + 413
 cagageagag ggtgeettg 19
 <210 > 414
 +211 > 21
 #...12 > DNA
 >213> Artificial Sequence
 > . 10>
 ~_23> Synthetic oligonucleotide probe
 .400> 414
  tggcggagte ecetettgge t 21
 - 210> 415
  ×211> 22
 +212> ENA
 .113> Artificial Sequence
  ~22C>
```

```
·223> Synthetic oligonucleotide probe
<4.00> 415
enetgtifen etatgeatea et 22
<110> 415
<.111: 21
<21120 DNA
<_13> Artificial Sequence
<220 -
<333> Synthetic oligonucleotide probe
<400 > 415
 transposety accetttest a 21
<210> 417
<..11 > 24
<212 > DNA
<213> Artificial Sequence
<2.10>
<233> Synthetic oligonucleotide probe
<400> 417
 ggcaggggad aagedatete teet 24
< .110> 418
<2.11>-2.0
 <2.12>~\mathrm{DNA}
 <_13> Artificial Sequence
 - 320s
 <223> Synthetic oligonucleotide probe
 400> 418
  aggactgaac tgccagcttc 20
 ..210> 419
 > 211> 22
 . 212> DNA
 42135 Artificial Sequence
 ..23> Synthetic oligonucleotide probe
 -400> 419
  gggdcctaac ctcattacct tt 22
 ...10> 420
 <211> 23
  .312> DNA
  <213> Artificial Sequence
```

```
<2200≥
<223> Synthetic oligonuclectide probe
<400 - 4.0
tgtetgeete agececagga agg 23
< 2.10 > 4.21
<211 > 21
<212> DNA
<213> Artificial Sequence
<220>
<223> Synthetic oligonucleotide probe
<400> 421
tetgtecace atettgeett g 21
<210> 422
 <211> 3554
 <212> DNA
 <213> Homo Sapien
 <400> 422
 gggactacaa geogegeege getgeegetg geoceteage aaccetegae 50
  atggegetga ggeggeeacc gegaeteegg etetgegete ggetgeetga 100
  cttcttcctg ctgctgcttt tcaggggctg cctgataggg gctgtaaatc 150
  tcaaatccag caatcgaacc ccagtggtac aggaatttga aagtgtggaa 200
  ctgtattgca taattaagga ttagaagada agtgaadada ggatagagtg 250
  gaagaaaatt caagatgaac aaaccacata tgtgtttttt gacaacaaaa 300
  ttcagggaga cttggcgggt cgtgcagaaa tactggggaa gacatccctg 350
  aagatetgga atgtgacaeg gagagaetea geeetttate getgtgaggt 400
   cgttgetega aatgacegea aggaaattga tgagattgtg ategagttaa 450
   etgtydaagt gaageeagtg acceetgtet gtagagtgee gaaggetgta 500
   deagtaggea agatggeaac actgeactge eaggagagtg agggeeacce 550
   ergyesteas tacagetggt ategeaatga tgtaceactg cecaeggatt 600
   ccagagecaa teecagattt egeaattett ettteeaett aaaetetgaa 650
   acaggcaett tggtgttcac tgetgttcac aaggaegaet etgggeagta 700
   ctastgeatt getteeaatg aegeaggete ageeaggtgt gaggageagg 750
```

agatggaagt ctatgacctg aacattggcg gaattattgg gggggttctg 800 gttgtocttg ctgtactggc cetgatcacg ilgggcatct gctgtgcata 850 cagacgtggc tacttcatca acaataaaca ggatggagaa agttacaaga 900 acccagggaa accagatgga gttaactaca teegeactga egaggaggge 950 gacttoagac acaagtoate gtttgtgate tgagaccogo ggtgtggctg 1000 agagegeaca gagegeaegt geacataeet etgetagaaa eteetgteaa 1050 ggcagcgaga qetgatgcac teggacagag etagacaete atteagaage 1100 ttttegtttt ggecaaagtt gaccactact ettettacte taacaageca 1150 catgaataga agaattttcc tcaagatgga cccggtaaat ataaccacaa 1200 ggaagcgaaa etgggtgegt teactgagtt gggtteetaa tetgtttetg 1250 geetgattee egeatgagta ttagggtgat ettaaagagt ttgeteaegt 1300 aaacgcccgt gctgggccct gtgaagccag catgttcacc actggtcgtt 1350 cagcagccac gacagcacca tgtgagatgg cgaggtggct ggacagcacc 1400 agcagegeat eeeggeggga acceagaaaa ggettettae acageageet 1450 tactteateg geceacagae accaeegeag titettetta aaggetetge 1500 tgateggtgt tgeagtgtee attgtggaga agetttttgg atcageattt 1550 tgtaaaaaca accaaaatca ggaaggtaaa ttggttgctg gaagagggat 1600 cttgcctgag gaaccctgct tgtccaacag ggtgtcagga tttaaggaaa 1650 accttegtet taggetaagt etgaaatggt actgaaatat gettttetat 1700 gggtcttgtt tattttataa aattttacat ctaaattttt gctaaggatg 1750 tattitgatt artgaaaaga aaatttotat ttaaactgta aatatattgt 1800 catacaatgt taaataacct attttttaa aaaagttcaa cttaaggtag 1850 aagttccaag ctactagtgt taaattggaa aatatcaata attaagagta 1900 ttttacccaa ggaatcctct catggaagtt tactgtgatg ttccttttct 1950 cacacaagtt ttagcctttt tcacaaggga actcatactg tctacacatc 2000 agaccatagt tgcttaggaa acctttaaaa attecagtta agcaatgttg 2050 aaatdagtti qoatdidtid aaaagaaadd totdaggita qottigaadi 2100 geotetteet gagatgasta ggacagtetg tacccagagg ccacccagaa 2150 gedeteagat gtacatadad agatgedagt dagethetgg ggttgegeda 2.200 ggegeeeeg etetagetea etgttgeete getgtetgee aggaggeeet 1250 gecatectig ggecetggea giggetgigt eccagigage titacteaeg 2300 tggcccttgc ttcatccage acagetetea ggtgggcact gcagggacae 2350 tggtgtcttc catgtagcgt cccagctttg ggctcctgta acagacctct 1400 ttttggttat ggatggetea caaaataggg eecccaatge tattttttt 2450 ttttaagttt gtttaattat ttgttaagat tgtctaaggc caaaggcaat 2500 tgcgaaatca agtctgtcaa gtacaataac atttttaaaa gaaaatggat 2550 cccactgttc ctctttgcca cagagaaagc acccagacgc cacaggctct 2600 gtogoattto aaaacaaaco atgatggagt ggoggooagt coagootttt 2650 aaagaacgtc aggtggagca gccaggtgaa aggcctggcg gggaggaaag 2700 tgaaacgcct gaatcaaaag cagttttcta attttgactt taaatttttc 2750 ateegeegga gacaetgete ceatttgtgg ggggacatta gcaacateae 1800 teagaageet gtgttettea agageaggtg tteteageet cacatgeeet 2850 geogtgetgg acteaggact gaagtgetgt aaagcaagga getgetgaga 1900 aggageacte cactgtgtge etggagaatg geteteacta eteacettgt 2950 ctttcagctt ccagtgtctt gggtttttta tactttgaca gctttttttt 3000 aattgcatac atgagactgt gttgactttt tttagttatg tgaaacactt 3050 tgccgcaggc cgcctggcag aggcaggaaa tgctccagca gtggctcagt 3100 geteeetggt gtetgetgea tggcateetg gatgettage atgeaagtte 3150 detecateat tgscaecttg gtagagaggg atggeteeed acceteageg 3200 ttggggatto acgetecage etcettettg gttgteatag tgatagggta 3250 geettattge eccetettet tataccetaa aacettetae actagtgeea 3300 tgggaaccag gtctgaaaaa gtagagagaa gtgaaagtag agtctgggaa 3350 gtagctgcct ataactgaga ctagacggaa aaggaatact cgtgtatttt 3400

aagatatgaa tgtgactcaa gactcgagge cgatacgagg ctgtgattct 3450 geetttggat gqatqityet gtacacagat geracagaet tqtactaaca 3500 caccgtaatt tggcatttgt ttaacctcat ttataaaagc ttcaaaaaaa 3550 ccca 3554 <110> 423 <211> 310 <212> PRT <213> Homo Sapien Met Ala Leu Arg Arg Pro Pro Arg Leu Arg Leu Cys Ala Arg Leu <400> 423 Pro Asp Phe Phe Leu Leu Leu Leu Phe Arg Gly Cys Leu Ile Gly Ala Val Asn Leu Lys Ser Ser Asn Arg Thr Pro Val Val Gln Glu 40 Phe Glu Ser Val Glu Leu Ser Cys Ile Ile Thr Asp Ser Gln Thr Ser Asp Pro Arg Ile Glu Trp Lys Lys Ile Gln Asp Glu Gln Thr Thr Tyr Val Phe Phe Asp Asn Lys Ile Gln Gly Asp Leu Ala Gly Arg Ala Glu Ile Leu Gly Lys Thr Ser Leu Lys Ile Trp Asn Val 100 Thr Arg Arg Asp Ser Ala Leu Tyr Arg Cys Glu Val Val Ala Arg 115 110 Asn Asp Arg Lys Glu Ile Asp Glu Ile Val Ile Glu Leu Thr Val 130 Gln Val Lys Pro Val Thr Pro Val Cys Arg Val Pro Lys Ala Val 145 140 Pro Val Gly Lys Met Ala Thr Leu His Cys Gln Glu Ser Glu Gly 160 155 His Pro Arg Pro His Tyr Ser Trp Tyr Arg Asn Asp Val Pro Leu 170 Pro Thr Asp Ser Arg Ala Asn Pro Arg Phe Arg Asn Ser Ser Phe 185

His	Leu	Asn	Ser	Glu 200	Thi	Gly	Thi	Leu	Val 205	Phe	Thi	Ala	Val	His 210
Lys	Asp	Asp	Ser	Gly 215	Gln	Туг	Туг	Cys	Ile 220	Ala	Ser	Asn	Asp	Ala 225
Gly	Ser	Ala	Arg	Cys 230	Glu	Glu	Gln	Glu	Met 235	Glu	Val	Tyr	Asp	Leu 240
Asn	Ile	Gly	Gly	Ile 245	Ile	Gly	Gly	Val	Leu 250	Val	Val	Leu	Ala	Val 255
Leu	Ala	Leu	Ile	Thr 260	Leu	Gly	Ile	Cys	Cys 265	Ala	Tyr	Arg	Arg	Gly 270
Tyr	Phe	Ile	Asn	Asn	Lys	Gln	Asp	Gly	Glu	Ser	Tyr	Lys	Asn	Pro
				275					280					285
Gly	Lys	Pro	Asp	Gly 290	Val	Asn	Tyr	Ile	Arg 295	Thr	Asp	Glu	Glu	Gly 300
Asp	Phe	Arg	His	Lys 305	Ser	Ser	Phe	Val	Ile 310					